P.P.2465

8

Ephemerides

'ΑΤΛΑΣ ΟΥΡΑ'ΝΙΟΣ,
The COELESTIAL ATLAS;
Or, A New
EPHEMERIS
For the Year of our LORD 1794.

Being the Second after
BISSEXTILE, or LEAP-YEAR.
Wherein are contained
The Heliocentrick and Geocentrick Places of the Planets,
the Eclipſes of the Luminaries, and other remarkable Phenomena that will happen this Year.
Carefully computed
From the genuine Tables of Dr. Edmund Halley,
thoſe of Profeſſor Mayer, and other the lateſt and moſt correct
Astronomical Tables.
ALSO
A Complete Almanack, containing the Feasts and Fasts
of the Church of England; the Times of the Lunations;
the Riſing and Setting of the Sun, Moon, and Planets, &c.
Adapted to the
Meridian and Latitude of the Royal Obſervatory of
GREENWICH.
To which are added,
Several uſeful Tables: As, a Table of the Sun's
Semi-diurnal Arcs, by which the Times of the Sun's Riſing and
Setting may be known by Inſpection, on every Day in the Year, and
in any Part of Great-Britain or Ireland; a Tide-Table,
and a very correct one of the Eclipſes of Jupit[illegible]ſatelite;
a Table of the Sun's Right-Aſcenſion; vario[illegible]s of
the moſt remarkable fixed Stars, corrected from [illegible]eed's
Catalogue; and, laſtly, a correct Table of L[illegible]ongitudes of the moſt remarkable Places in the World.

By ROBERT WHITE,
Teacher of the Mathematicks.

17[illegible] 94

46-6-24 B13

Οἱ οὐρανοὶ διηγοῦνται δόξαν Θεοῦ.

The Forty-Fifth Impression.

LONDON:
Printed for the Company of STATIONERS; and ſold
by Robert Horsfield, at their Hall, in Ludgate-ſtreet.
[Price One Shilling ſtitched.]

Chronological Notes for the Year 1794.

Golden Number	9	Septuageſima Sund.	Feb. 16
Cycle of the Sun	11	Shrove Sunday	Mar. 2
The Epact	28	Eaſter Day	April 20
Dominical Letter	E	Whit Sunday	June 8
Number of Direction	30	Trinity Sunday	June 15
Roman Indiction	12	Advent Sunday	Nov. 30

Aſtronomical CHARACTERS explained.

♈ Aries	♋ Cancer	♎ Libra	♑ Capricorn
♉ Taurus	♌ Leo	♏ Scorpio	♒ Aquarius
♊ Gemini	♍ Virgo	♐ Sagitary	♓ Piſces

♄ Saturn	☉ Sol (the Sun)	☽ Luna (the Moon)	♅ Herſchel, the New or Georgian Planet.
♃ Jupiter	♀ Venus	☊ Moon's N. Node	
♂ Mars	☿ Mercury	☋ her S. Node	

☌ Conjunction when Planets are in the ſame Sign, Deg. Min. &c.

✱ Sextile when 2 Signs diſt.	△ Trine when 4 Signs diſt.
□ Quartile when 3 Signs diſt.	☍ Oppoſition when 6 Signs diſt.

Of the Four Quarters of the YEAR 1794.

		d	h	m	
THE Spring Quarter begins	March	20	9	5	morn.
The Summer Quarter begins	June	21	7	6	morn.
The Autumnal Quarter begins	Sept.	22	8	48	aftern.
The Winter Quarter begins	Dec.	21	1	23	aftern.

THE beautiful Planet VENUS will be a Morning Star 'till March the 19th; and after that Time ſhe will be an Evening Star to the Year's End.

JUPITER will be a Morning Star 'till the 19th Day of June, at which Time he becomes an Evening Star, and ſo continues to the Year's End.

The NAMES of the Learned JUDGES of the LAW.

I. Right Hon. Alexander Wedderburne Lord Loughborough, Lord High Chancellor of Great Britain.

Right Honourable Sir Richard Pepper Arden, Knt. Maſter of the Rolls.

II. In the K. Bench. } Right Hon. Lord Kenyon, L. C. J. Sir W. H. Aſhhurſt, Knt.
Sir Francis Buller, Bart. Sir Naſh Groſe, Knt.

III. In the C. Pleas. } Sir James Eyre, Knt. L. C. J. Sir Henry Gould, Knt.
John Heath, Eſq; Sir John Wilſon, Knt.

IV. In the Exchequer } Sir Arch. Macdonald, Kt. L. C. B. Sir Beaumont Hotham, Kt.
Sir Richard Perryn, Knt. Sir Alex. Thompſon, Knt.

Sir John Scott, Knt. Attor. General; Sir John Mitford, Knt. Solic. Gen.

A TABLE of TERMS and Returns for the Year 1794.

Hilary Term begins Jan. 23, ends Feb. 12.

	Returns or Eſſoign-days.	Exc.	Ret.	Ap.	W. D.
In eight Days of St. Hilary, - -	Jan. 20	21	22	23	Thurſ.
In fifteen Days of St. Hilary - - - -	27	28	29	30	Thurſ.
On the Mor. of the Purif. of the Bl. V. M.	Feb. 3	4	5	6	Thurſ.
In eight Days of the Purif. of the Bl. V. M.	9	10	11	12	Wedn.

Eaſter Term begins May 7, ends June 2.

In fifteen Days of Eaſter - -	May 4	5	6	7	Wedn.
From Eaſter Day in three Weeks -	11	12	13	14	Wedn.
From Eaſter Day in one Month -	18	19	20	21	Wedn.
From Eaſter Day in five Weeks -	25	26	27	28	Wedn.
On the Mor. of the Aſcenſion of the Lord	30	31	J. 1	2	Monday

Trinity Term begins June 20, ends July 9.

On the Morrow of the Holy Trinity, -	June 16	17	18	20	Friday.
In eight Days of the Holy Trinity, -	22	23	24	25	Wedn.
In fifteen Days of the Holy Trinity, -	29	30	J. 1	2	Wedn.
From the Day of the Holy Trin in 3 Weeks	J. 6	7	8	9	Wedn.

Michaelmas Term begins Nov. 6, ends Nov. 28.

On the Morrow of All Souls - - -	Nov. 3	4	5	6	Thurſ.
On the Morrow of St. Martin - - - -	12	13	14	15	Saturd.
In eight Days of St. Martin - - -	18	19	20	21	Friday.
In fifteen Days of St. Martin - - - - -	25	26	27	28	Friday.

N. B. No Sittings in Weſtminſter-Hall on the Second of February, Aſcenſion-day, and Midſummer-day.

The Exchequer opens eight Days before any Term begins, except Trinity, before which it opens but four Days.

Note, The firſt and laſt Days of every Term, are the firſt and laſt Days of Appearance.

BIRTH-DAYS of the ROYAL FAMILY.

KING GEORGE III. June 4,	1738
Prince of Wales, Aug. 12,	1762
Duke of York, Auguſt 16,	1763
Duke of Clarence, Aug. 21,	1765
Princeſs Royal, Septem. 29,	1766
Prince Edward, Nov. 2, -	1767
Prs. Auguſta Sophia, Nov. 8,	1768
Prs. Elizabeth, May 22, -	1770
Prince Erneſt Auguſtus, June 5,	1771
Prince Aug. Fred. Jan. 27,	1773
Prince Adolph. Fred. Feb. 24,	1774
Princeſs Mary, April 25, -	1776
Princeſs Sophia, Nov. 3, -	1777
Princeſs Amelia, Aug. 7, -	1783
Queen Charlotte, May 19,	1744
Prs. Auguſta of Brun. Aug. 11,	1737
Duke of Glouceſter, Nov. 25,	1743

SOVEREIGNS of EUROPE, their Acceſſion, &c.

Kingdoms, &c.	To whom ſubject.	When born.		Began to reign.	
England, &c.	George III.	June 4,	1738	Oct. 25,	1760
France					
Ruſſia	Catharine II.	May 2,	1729	July 9,	1762
Spain	Charles IV.	Nov. 11,	1748	Dec. ,	1788
Portugal	Mary	Dec. 7,	1734	Feb. 24,	1777
Pruſſia	Frederic IV.	Sept. 25,	1744	Aug. 17,	1786
Denmark & Norway	Chriſtian VII.	Jan. 29,	1749	Jan. 14,	1766
Sweden	Guſtavus IV.	Nov. 1,	1778	Mar. 29,	1792
Germany	Francis II.	Feb. 12,	1767	Mar. 1,	1792
Poland	Staniſlaus III.	Jan. 17,	1732	Nov. 25,	1764
Holland	William V.	March 8,	1748	Oct. 11,	1751
Popedom	Pius VI.	Dec. 27,	1717	Feb. 18,	1775
Sardinia	Victor	June 26,	1726	Mar. 20,	1773
Ottoman Empire	Selim III.	July 17,	1761	April 7,	1789

The FULL WEIGHT of the Coins, with the LEAST WEIGHT allowed to paſs of the Gold Coin.

	Wt. allowed.		Full Wt.	
GOLD.	dwt.	gr.	dwt.	gr.
Guinea, - -	5	8	5	$9\frac{39}{89}$
Half Guinea, -	2	16	2	$16\frac{64}{89}$
Quarter Guinea,	1	8	1	$8\frac{32}{89}$

	Full Wt.	
SILVER.	dwt.	gr.
A Crown, - -	19	$8\frac{16}{31}$
Half Crown, -	9	$16\frac{8}{31}$
Shilling, - -	3	$20\frac{28}{31}$
Six Pence, - -	1	$22\frac{14}{31}$

According to the above proportions it appears, that the value of a *lb.* of ſilver is 62 s. or 3 l. 2 s. and of a *lb.* of gold is 44½ guineas, or 46 l. 14 s. 6 d. Alſo that the *oz.* of ſilver is 5 s 2 d. and the *oz.* of gold 3 l. 17 s. 10½ d. So that the value of the ſtandard gold is 15 times that of the ſilver, and 1-14th more.

A TABLE of the KINGS and QUEENS of ENGLAND ſince the CONQUEST.

Kings and Queens	Born A.D.	Began their Reign	Reigned Y. M. D.	Age	Rem. Deaths and Dethroned	Where buried
Will. Conq.	1027	1066 Oct. 14	20 10 26	60	Burſt by Leap.	Caen, Norm
Will. Rufus	1057	1087 Sept. 9	12 10 24	43	Slain accidentally.	Wincheſter
Henry I.	1068	1100 Aug. 2	35 3 29	77		Reading
Stephen	1105	1135 Dec. 1	18 10 24	49		Feverſham
Henry II.	1133	1154 Oct. 25	34 8 11	55		Fonteveraud
Richard I.	1156	1189 July 6	9 9 0	43	Slain with an Arrow.	Fonteveraud
John	1165	1199 April 6	17 6 13	50		Worceſter
Henry III.	1207	1216 Oct. 19	56 0 28	65		Weſtminſter
Edward I.	1239	1272 Nov. 16	34 7 21	67		Weſtminſter
Edward II.	1284	1307 July 7	19 6 18	43		Glouceſter
Edward III.	1312	1327 Jan. 25	50 4 27	65		Weſtminſter
Richard II.	1366	1377 June 21	22 3 8	33	Dep. & murd.	Weſtminſter
Henry IV.	1367	1399 Sept. 29	13 5 20	46		Canterbury
Henry V.	1389	1413 Mar. 20	9 5 11	33		Weſtminſter
Henry VI.	1421	1422 Aug. 31	38 6 4	49	Dep. & murd.	Windſor
Edward IV.	1442	1461 Mar. 4	22 1 5	41		Windſor
Edward V.	1471	1483 April 9	0 2 15	12	Murder'd.	Not known
Richard III.	1443	1483 June 22	2 2 0	42	Slain in Battle.	Leiceſter
Henry VII.	1456	1485 Aug. 22	23 8 0	52		Weſtminſter
Henry VIII.	1492	1509 April 22	37 9 6	55		Windſor
Edward VI.	1537	1547 Jan. 28	6 5 8	15		Weſtminſter
Mary I.	1516	1553 July 6	5 4 11	42		Weſtminſter
Elizabeth	1533	1558 Nov. 17	44 4 7	69		Weſtminſter
James I.	1566	1603 Mar. 24	22 0 3	58		Weſtminſter
Charles I.	1600	1625 Mar. 27	23 10 3	48		Windſor
Charles II.	1630	1649 Jan. 30	36 0 7	54		Weſtminſter
James II.	1633	1685 Feb. 6	4 0 7	67	Abdicated.	St. Germain
Mary II.	1662	1689 Feb. 13	5 10 15	32		Weſtminſter
William III.	1650	1689 Feb. 13	13 0 23	52		Weſtminſter
Anne	1665	1702 Mar. 8	12 4 24	49		Weſtminſter
George I.	1660	1714 Aug. 1	12 10 10	67		Hanover
George II.	1683	1727 June 11	33 4 14	77		Weſtminſter
George III.	1738	1760 Oct. 25	Crowned Sept. 22, 1761.			

Above you view the Riſe and Fall of Kings,
Whoſe Fate ſometimes a uſeful Leſſon brings.
Well if all Men could profit from the paſt!
Each know his Duty, each excel the laſt,
And juſtly execute his ſtated Taſk.

A TABLE of the moſt Reverend, Right Reverend, and Reverend, the ARCHBISHOPS, BISHOPS and DEANS, exerciſing Eccleſiaſtical Juriſdiction, 1794.

BISHOPS.	Sees.	Date.	Succeeded.	DEANS.
Dr. John Moore	*Bangor*	1775	Ewer deceaſed	
Arch-Biſhop	Canterb. A. B	1783	Cornwallis dec.	Biſhop Buller
Dr. Will. Markham	*Cheſter*	1771	Keene tranſlat.	
Arch-Biſhop	York A. B.	1777	Drummond de.	Dr. J. Fountayne
Dr. Beilby Porteus	*Cheſter*	1776	Markham tran.	
	London	1787	Lowth deceaſ.	Biſhop Pretyman
Ho. Dr. S. Barrington	*Londaff*	1769	Shipley tranſl.d	
	Saliſbury	1782	Hume dec.	
	Durham	1791	Thurlow dec.	Biſhop Hinchliffe
Hon. Dr. B. North	*Litch & Cov.*	1771	Egerton tranſl.	
	Worceſter	1774	Johnſon deceaſ.	
	Wincheſter	1781	Thomas deceaſ.	Dr. Newton Ogle
Sir W. Aſhburnham	Chicheſter	1754	Mawſon tranſl.	Mr. Combe Miller
Dr. Charles Moſs	*St. David's*	1766	Lowth tranſl.	
	Bath & Wells	1774	Willes deceaſe	Ld. Fr. Seymour
Dr. John Hinchliffe	Peterborough	1769	Lamb dec.	Dr. Peter Peckard
H. Dr. James Yorke	*St. David's*	1774	Moſs tranſl.	
	Glouceſter	1779	Warburton dec.	
	Ely	1781	Keene deceaſed	Dr. W. Cooke
Dr. Richard Hurd	*Litch. & Cov.*	1775	B. North tr.	
	Worceſter	1781	B. North tr.	Ho. St. A. St. John
Dr. John Butler	*Oxford*	1777	Lowth tranſl.	
	Hereford	1788	Harley deceaſ.	Dr. N. Wetherell
Dr. John Warren	*St. David's*	1779	Yorke tranſl.	
	Bangor	1783	Moore tranſl.	Dr. Tho. Lloyd
Dr. J. Cornwallis	Litch. & Cov.	1781	Hurd tranſl.	Dr. Bapt. Proby
Dr. Lewis Bagot	*Briſtol*	1782	Newton dec.	
	Norwich	1783	Yonge dec.	
	St. Aſaph	1790	Hallifax dec.	Mr. W. D. Shipley
Dr. Richard Watſon	Landaff	1782	Barrington tr.	Dr. R. Price, Pr.
Dr. Edward Smalwel	*St. David's*	1783	Warren tranſl.	
	Oxford	1788	Butler tranſl.	Dr. Cyril Jackſon
Dr. G. Pretyman	Lincoln	1787	Thurlow tran.	Sir Ri. Kaye, Bt.
Dr. John Douglas	*Carliſle*	1787	Law dec.	
	Saliſbury	1791	Barrington tra.	Dr. John Ekins
Dr. William Cleaver	Cheſter	1788	Porteus tran.	Dr. G. Cotton
Dr. Samuel Horſley	*St. David's*	1788	Smalwell tr.	
	Rocheſter	1793	Thomas dec.	Dr. T. Dampier
Dr. Richard Beadon	Glouceſter	1789	Hallifax tran.	Dr. Joſiah Tucker
Dr. E. V. Vernon	Carliſle	1791	Douglas tranſl.	Dr. Iſaac Milner
Dr. Charles Sutton	Norwich	1792	Horne deceaſ.	Dr. John Hallam
Dr. Spencer Madan	Briſtol	1792	Bagot tranſl.	Dr. Joſeph Turner
Dr. Wm. Buller	Exeter	1792	Roſs dec.	Dr. C. Harward
Dr. Stuart	St. David's	1793	Horſley tranſl.	Mr. Wollaſton, P.
	Weſtminſter	1793	Thomas dec.	Biſhop Horſley
	Windſor	1788		Biſhop Cornwallis
Dr. Claudius Crigan	Sodor & Man	1784	Maſon dec.	

IN the courſe of this year there will happen ſix eclipſes, four of the ſun, and two of the moon; and one of each of theſe will be viſible in theſe parts.

I. *January* 31, Sol is eclipſed, and viſible at Greenwich.

Beginning of the eclipſe	10h	56m	morning.
Greateſt obſcuration	11	45	
End of the eclipſe	0	33½	afternoon.
Digits eclipſed	2°	49′	

The eclipſe begins, and the moon makes the firſt impreſſion on the ſun's limb at 41½ degrees from the ſun's vertex on the right hand; the eclipſe will end, or the moon will quit the ſun's limb a little nearer the vertex on the left hand.—This will be a much larger eclipſe in the more northern parts of Europe, as Denmark, Norway, Sweden, &c.

II. *February* 14, the Moon is eclipſed, and viſible here. The eclipſe is total, and nearly central, that is nearly in the centre of the earth's ſhadow, conſequently very large, and of long duration.

Beginning of the eclipſe	8h	7m	evening.
Beginning of total darkneſs	9	12½	
Middle	10	5½	
End of total darkneſs	10	58½	
End of the eclipſe	12	4	
Duration of total darkneſs	1	46	
Whole duration	3	57	

This eclipſe may be ſeen in all parts of Europe and Africa, together with the weſtern parts of Aſia, and the eaſtern parts of America.

III. *March* 1, the Sun is eclipſed about 10 at night, conſequently inviſible to all Europe. But it will be viſible in the ſouthern parts of America, Africa, and the great South Seas. The conjunction is 9h 54m Greenwich time, in long. 4^s 11° 36′, the moon's lat. 1° 21′¼ ſouth

IV. *July* 26 is another Solar eclipſe, alſo about 10 at night, and therefore inviſible in Europe, but may be ſeen in the ſouthern parts of the world. The conjunction is at 10h 3m, in long. 4^s 3° 57′, moon's lat. 1° 15′¼ ſouth.

V. *Auguſt* 11 is another total eclipſe of the moon, about 7 in the morning, but inviſible to all Europe, becauſe the moon is not then riſen; but it may be ſeen in moſt parts of America, Africa, and the ſouthern parts of Aſia, and the South Seas.

Beginning of the eclipſe	5h	36m	morning.
Beginning of total darkneſs	6	33½	
Middle	7	23½	
End of total darkneſs	8	13½	
End of the eclipſe	9	11	

Digits eclipſed 20° 33′ ſouth from ſide of the earth's ſhadow.

VI. *Auguſt* 25 is a Solar eclipſe, near half paſt 12 at noon, but inviſible here, though it may be ſeen in the more northern parts of Europe, as Ruſſia, Sweden, Norway, and Lapland. The conjunction is at 0h 23m, in long. 5^s 2° 25′, the moon's lat. 1° 20′ north.

Obliquity of the Ecliptic.	1794.		Equation of Equinoctial Points.
23° 27′ 48″.9	January	1,	9″.2
23 27 49.2	April	1,	10.4
23 27 49.6	July	1,	11.6
23 27 50.0	October	1,	12.7
23 27 50.5	December	1,	13.8

January hath XXXI Days. White.

The LUNATIONS.

New Moon the 1ſt day, at 40 minutes paſt 11 night.
Firſt quarter the 8th day, at 54 minutes paſt 4 afternoon.
Full Moon the 16th day, at 32 minutes paſt 3 morning.
Laſt quarter the 24th day, at 45 minutes paſt 8 morning.
New Moon the 31ſt day, at 20 minutes paſt 11 morning.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☽'s declin.	☽ riſes & ſets	☽ ſouth	Clock bef. ☉
1	Circumciſion	8 4	3 56	22 s 58	19 s 17	☽ ſets	11 m 30	4′ 16″
2		8 4	3 56	22 53	18 55	4 a 57	0 a 29	4 44
3		8 3	3 57	22 47	17 17	6 7	1 28	5 12
4		8 2	3 58	22 41	14 32	7 23	2 25	5 39
E	2 Sun. a. Chriſt.	OCh. D	3 58	22 34	10 51	8 41	3 21	6 6
6	Epiphany	Tw. day	3 59	22 27	6 34	10 1	4 14	6 33
7		8 0	4 0	22 19	1 58	11 18	5 6	6 58
8	Lucian	7 59	4 1	22 11	2 n 41	morn.	5 56	7 24
9		7 58	4 2	22 2	7 6	0 33	6 46	7 49
10		7 57	4 3	21 53	11 4	1 47	7 36	8 13
11		7 56	4 4	21 44	14 25	2 58	8 27	8 36
E	1 S. aft. Epiph.	O. New	Year. d.	21 34	16 58	4 6	9 18	8 59
13	Camb. Ter. be.	Hilary	Plo. M.	21 24	18 36	5 9	10 9	9 22
14	Oxf. Term beg.	7 53	4 7	21 13	19 17	6 7	11 0	9 43
15		7 52	4 8	21 2	18 59	6 58	11 50	10 4
16		7 50	4 10	20 50	17 46	☽ riſes	morn	10 25
17	Old Twe. Day	7 49	4 11	20 38	15 45	5 a 57	0 39	10 44
18	Q. Char. b. d. k.	Priſca	4 12	20 26	13 4	6 57	1 25	11 3
E	2 S. af. Epiph.	7 46	4 14	20 13	9 53	7 59	2 10	11 21
20	Fabian	7 45	4 15	20 0	6 19	0 2	2 54	11 38
21	Agnes	7 44	4 16	19 47	2 32	10 3	3 36	11 55
22	Vincent	7 42	4 18	19 33	1 s 22	11 6	4 17	12 11
23	Hil. Term beg.	7 41	4 19	19 19	5 15	morn.	4 50	12 26
24		7 39	4 21	19 5	9 0	0 11	5 43	12 40
25	Con. of St. Paul	7 38	4 22	18 50	12 26	1 16	6 28	12 54
E	3 Sun. a. Epip.	7 36	4 24	18 34	15 23	2 23	7 16	13 7
27	Pr. Au. Fred. b.	7 34	4 26	18 19	17 39	3 31	8 8	13 19
28		7 33	4 27	18 3	18 54	4 36	9 3	13 30
29		7 31	4 29	17 47	19 11	5 37	10 1	13 40
30	K. Cha. I. mar.	7 30	4 30	17 30	18 8	6 30	11 0	13 50
31		7 28	4 32	17 14	15 51	7 10	0 a 0	13 59

Days	Day increaſ.	Length of Day.	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ⊖	Helioc long. ♀	Helioc. long. ☿	♄ ſets.
1	0 8	7 52	14 ♉ 25	15 ♐ 10	12 ♍ 4	11 ♋ 25	27 ♏ 11	19 ♍ 46	2 m 47
7	0 16	8 0	14 38	15 38	15 25	17 32	6 ♐ 44	12 ♎ 56	2 22
13	0 28	8 12	14 51	16 7	18 3	23 39	16 16	2 ♏ 48	1 57
19	0 44	8 28	15 4	16 36	20 42	29 45	25 47	20 37	1 32
25	1 0	8 44	15 17	17 5	23 21	5 ♌ 51	5 ♑ 17	7 ♐ 22	1 6

January.

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☽'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	5 59	6 1	2 6	29♌14	2 s 27	0 n 27	1 n 54	0 n 28	2 n 24
7	5 56	6 4	2 4	28 55	2 25	0 27	1 56	0 13	1 31
13	5 52	6 8	2 2	28 36	2 23	0 27	1 58	0 2	0 37
19	5 46	6 14	2 0	28 17	2 21	0 26	2 0	0 17	0 s 13
25	5 39	6 21	1 58	27 58	2 20	0 26	2 2	0 31	0 56

Days	☉'s longitude	☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♑11 24 37	4♑57	4 n 6	8♉57	19♐11	18♎43	22♐49	18♐57
2	12 25 50	19 19	3 12	8 56	19 24	19 13	24 4	19 40
3	13 27 3	3♒53	2 4	8 56	19 37	19 42	25 19	20 27
4	14 28 15	18 30	0 48	8 55	19 50	20 11	26 35	21 18
E	15 29 27	3♓5	0 s 31	8 55	20 3	20 40	27 50	22 13
6	16 30 39	17 33	1 47	8 54	20 16	21 9	29 5	23 12
7	17 31 50	1♈50	2 56	8 54	20 29	21 37	0♑21	24 16
8	18 33 0	15 55	3 53	8 54	20 42	22 6	1 36	25 21
9	19 34 9	29 47	4 36	8 53	20 55	22 34	2 51	26 28
10	20 35 18	13♉25	5 2	8D53	21 7	23 3	4 6	27 39
11	21 36 26	26 50	5 11	8 53	21 20	23 31	5 22	28 51
E	22 37 33	10♊1	5 4	8 54	21 33	23 58	6 37	0♑5
13	23 38 40	23 0	4 41	8 54	21 45	24 25	7 52	1 20
14	24 39 46	5♋46	4 4	8 54	21 58	24 53	9 7	2 37
15	25 40 51	18 20	3 16	8 55	22 10	25 20	10 22	3 55
16	26 41 55	0♌41	2 19	8 55	22 23	25 47	11 38	5 15
17	27 42 58	12 51	1 16	8 56	22 35	26 14	12 53	6 36
18	28 44 1	24 51	0 11	8 57	22 47	26 40	14 8	7 58
E	29 45 3	6♍44	0 n 54	8 58	22 59	27 6	15 24	9 20
20	♒0 46 5	18 32	1 56	8 59	23 11	27 32	16 39	10 43
21	1 47 6	0♎19	2 54	9 0	23 23	27 58	17 54	12 8
22	2 48 7	12 10	3 44	9 2	23 35	28 23	19 9	13 35
23	3 49 7	24 10	4 26	9 3	23 47	28 49	20 25	15 2
24	4 50 6	6♏22	4 56	9 5	23 59	29 15	21 40	16 29
25	5 51 5	18 52	5 13	9 7	24 11	29 40	22 55	17 57
E	6 52 3	1♐44	5 15	9 9	24 23	0♏5	24 10	19 26
27	7 53 1	15 1	5 0	9 11	24 34	0 29	25 25	20 56
28	8 53 58	28 45	4 20	9 13	24 46	0 53	26 41	22 26
29	9 54 54	12♑56	3 40	9 15	24 57	1 17	27 56	23 57
30	10 55 49	27 29	2 30	9 17	25 9	1 41	29 11	25 29
31	11 56 43	12♒29	1 19	9 19	25 20	2 4	0♒26	27 2

Days	♃ rises	♂ rises	♀ rises	☿ rises	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	6 m 26	0 m 49	6 m 44	6 m 11	12 n 10	22 s 34	5 s 35	22 s 48	20 s 37
7	6 6	0 39	6 53	6 19	12 11	22 40	6 39	23 15	21 49
13	5 46	0 29	7 0	6 28	12 13	22 46	7 39	23 17	22 51
19	5 27	0 19	7 4	6 40	12 16	22 50	8 35	22 52	23 21
25	5 8	0 7	7 6	6 54	12 21	22 54	9 27	22 2	23 11

February hath XXVIII Days.

The LUNATIONS.

First quarter the 7th day, at 51 minutes past 2 morning.
Full Moon the 14th day, at 5 minutes past 10 night.
Last quarter the 23d day, at 51 minutes past 1 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ south	Clock bef. ☉
1		7 26	4 34	16 s 56	12 s 27	☾ sets	0 a 59	14′ 6″
E	4 S. a. Ep. Cand.	7 25	4 35	16 39	8 15	7 a 29	1 56	14 13
3	Blase	7 23	4 37	16 21	3 34	8 52	2 50	14 20
4		7 21	4 39	16 3	1 n 15	10 11	3 43	14 25
5	Agatha	7 19	4 41	15 45	5 53	11 28	4 35	14 30
6		7 18	4 42	15 27	10 4	morn	5 27	14 33
7		7 16	4 44	15 8	13 37	0 43	6 19	14 36
8		7 14	4 46	14 49	16 22	1 54	7 10	14 38
E	5 Sun. a. Epip.	7 12	4 48	14 30	18 14	2 58	8 1	14 40
10		7 10	4 50	14 10	19 9	3 57	8 52	14 40
11		7 9	4 51	13 50	19 6	4 4[illegible]	9 42	14 40
12	Term ends	7 7	4 53	13 30	18 9	5 34	10 31	14 38
13	Old Canal. day	7 5	4 55	13 10	16 22	6 13	11 18	14 37
14	Valentine	7 3	4 57	12 50	13 53	☽ rises	morn	14 34
15		7 1	4 59	12 29	10 50	5 a 15	0 3	14 30
E	Septuagesim. Sun.	6 59	5 1	12 8	7 22	6 47	0 47	14 26
17		6 57	5 3	11 47	3 38	7 50	1 30	14 22
18		6 55	5 5	11 26	0 s 15	8 55	2 12	14 16
19		6 53	5 7	11 5	4 8	9 59	2 55	14 10
20		6 5[illegible]	5 8	10 4[illegible]	7 53	11 3	3 3[illegible]	14 3
21		6 50	5 10	10 21	11 23	morn	4 22	13 56
22		6 48	5 12	10 0	14 27	0 7	5 8	13 48
E	Sex. Su. [A. F. b.	6 46	5 14	9 38	16 54	1 14	5 57	13 39
24	St. Matthia. P.	6 44	5 16	9 15	18 33	2 1[illegible]	6 49	13 30
25	Cam. T. div. n.	6 42	5 18	8 53	19 14	3 1[illegible]	7 44	13 20
26		6 4[illegible]	5 20	8 31	18 46	4 16	8 41	13 9
27		6 38	5 22	8 8	17 4	5 6	9 40	12 59
28		6 36	5 24	7 45	14 11	5 49	10 39	12 47

Days	Day increas.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long ♂	Helioc long. ⊖	Helioc. long. ♀	Helioc. long. ☿	♄ sets
1	1 24	9 8	15 ♉ 33	17 ♐ 39	26 ♍ 28	12 ♌ 5[illegible]	16 ♑ [illegible]	26 ♐ 59	0 m 39
7	1 41	9 28	15 46	18 7	29 8	19 2	25 50	13 ♑ 49	0 15
13	2 6	9 50	5 59	18 36	1 ♎ 49	25 6	5 ♒ 18	2 ♒ 24	11 a 52
19	2 30	10 14	16 12	19 5	4 31	1 ♍ 9	14 47	23 26	11 31
25	2 52	10 36	16 25	19 34	7 13	7 11	24 17	18 ♓ 7	11 10

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☽'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	5 30	6 29	1 55	27♌36	2 s 18	0 n 26	2 n 4	0 s 46	1 s 34
7	5 22	6 38	1 54	27 17	2 16	0 26	2 6	0 57	1 56
13	5 12	6 48	1 52	26 58	2 14	0 25	2 7	1 8	2 6
19	5 1	6 59	1 52	26 39	2 13	0 25	2 8	1 15	2 0
25	4 50	7 10	1 52	26 19	2 11	0 25	2 9	1 21	1 36

Days	☉'s longitude	☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♒12 57 35	27♒20	0 s 3	9♉22	25♐32	2♏26	1♒42	28♑36
E	13 58 26	12♓20	1 25	9 24	25 43	2 49	2 57	0♒10
3	14 59 16	27 13	2 41	9 27	25 54	3 11	4 12	1 45
4	16 0 4	11♈52	3 45	9 30	26 5	3 33	5 27	3 21
5	17 0 51	26 12	4 34	9 33	26 16	3 54	6 42	4 58
6	18 1 36	10♉11	5 4	9 36	26 27	4 15	7 58	6 34
7	19 2 19	23 49	5 17	9 39	26 38	4 36	9 13	8 12
8	20 3 0	7♊5	5 13	9 42	26 48	4 56	10 28	9 51
E	21 3 40	20 3	4 52	9 46	26 59	5 17	11 43	11 31
10	22 4 18	2♋44	4 18	9 49	27 9	5 37	12 58	13 12
11	23 4 54	15 12	3 31	9 52	27 19	5 56	14 13	14 53
12	24 5 29	27 27	2 36	9 55	27 30	6 15	15 28	16 35
13	25 6 2	9♌33	1 34	9 59	27 40	6 34	16 43	18 18
14	26 6 33	21 32	0 29	10 3	27 50	6 52	17 58	20 2
15	27 7 2	3♍25	0 n 37	10 7	28 0	7 10	19 13	21 47
E	28 7 30	15 14	1 41	10 11	28 10	7 27	20 28	23 33
17	29 7 57	27 2	2 40	10 15	28 19	7 45	21 43	25 20
18	♓0 8 22	8♎52	3 33	10 19	28 29	8 2	22 58	27 8
19	1 8 45	20 45	4 17	10 23	28 39	8 18	24 13	28 56
20	2 9 7	2♏46	4 50	10 27	28 48	8 34	25 28	0♓45
21	3 9 28	14 58	5 11	10 32	28 58	8 49	26 43	2 36
22	4 9 47	27 25	5 18	10 36	29 7	9 4	27 58	4 28
E	5 10 5	10♐11	5 9	10 41	29 16	9 28	29 13	6 20
24	6 10 22	23 20	4 44	10 45	29 25	9 32	0♓28	8 13
25	7 10 37	6♑54	4 3	10 50	29 34	9 46	1 43	10 6
26	8 10 50	20 56	3 6	10 55	29 43	9 59	2 58	12 0
27	9 11 2	5♒23	1 56	11 0	29 51	10 11	4 13	13 55
28	10 11 13	20 13	0 36	11 5	29 59	10 23	5 28	15 52

Days	♃ riſes	♂ riſes	♀ riſes	☿ riſes	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	4 m 46	11 a 5	7 m 6	7 m 0	12 n 27	2 s 58	10 s 23	20 s 33	21 s 59
7	4 27	11 39	7 3	7 2	12 34	23 0	11 5	18 53	20 6
13	4 8	11 26	7 0	7 4	12 42	23 1	11 43	16 55	17 21
19	3 49	11 14	6 55	7 2	12 51	23 2	12 16	14 39	13 44
25	3 30	10 59	6 48	6 57	13 1	23 3	12 43	12 9	9 16

March hath xxxi Days.

The Lunations.

New Moon the 1ſt day, at 54 minutes paſt 9 night.
Firſt quarter the 8th day, at 57 minutes paſt 2 afternoon.
Full Moon the 16th day, at 53 minutes paſt 4 afternoon.
Laſt quarter the 24th day, at 10 minutes paſt 3 afternoon.
New Moon the 31ſt day, at 21 minutes paſt 7 morning.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☾'s declin.	☽ riſes & ſets	☾ South	Clock bef. ☉
1	David	6 34	5 26	7 s 23	10 s 18	☽ ſets	11 m 38	12′ 35″
2	Quinq. Shro. S.	Chad	5 28	7 0	5 42	6 a 25	0 a 36	12 23
3		6 30	5 30	6 37	0 46	7 46	1 30	12 10
4	Shrove Tueſday	6 28	5 32	6 14	4 n 9	9 8	2 26	11 56
5	Aſh Wedneſday	6 26	5 34	5 50	8 42	10 29	3 21	11 42
6		6 24	5 36	5 27	12 36	11 42	4 14	11 28
7	Perpetua	6 22	5 38	5 4	15 42	morn	5 7	11 13
8		6 20	5 40	4 40	17 52	0 51	6 0	10 58
9	1 Sun. in Lent	6 18	5 42	4 17	19 3	1 55	6 52	10 43
10		6 16	5 44	3 54	19 14	2 50	7 43	10 27
11		6 14	5 46	3 30	18 29	3 38	8 33	10 11
12	Ember Week	6 12	5 48	3 6	16 53	4 19	9 20	9 54
13	[Gregory	6 10	5 50	2 43	14 35	4 54	10 6	9 37
14		6 8	5 52	2 19	11 40	5 23	10 51	9 20
15		6 6	5 54	1 56	8 18	5 48	11 31	9 3
16	2 Sund. in Lent	6 4	5 56	1 32	4 36	☽ riſes	morn	8 45
17	St. Patrick	6 2	5 58	1 8	0 44	6 a 52	0 17	8 27
18	Edw. K. W. S.	6 0	6 0	0 44	3 s 12	7 56	0 59	8 9
19		5 58	6 2	0 21	7 2	9 1	1 42	7 51
20		5 56	6 4	0 n 3	10 37	10 7	2 26	7 33
21	Benedict	5 54	6 6	0 27	13 48	11 11	3 12	7 14
22		5 52	6 8	0 50	16 24	morn	3 59	6 56
23	3 Sund. in Lent	5 5	6 10	1 14	18 16	0 17	4 49	6 37
24		5 48	6 12	1 37	19 1[illegible]	1 17	5 42	6 19
25	Ann. or Lady D.	5 46	6 14	2 1	19 10	2 15	6 37	6 0
26		5 44	6 16	2 24	17 5	3 6	7 33	5 41
27		5 42	6 18	2 48	15 37	3 48	8 30	5 23
28		5 40	6 20	3 11	12 13	4 28	9 28	5 4
29		5 39	6 21	3 35	7 57	5 1	10 24	4 46
30	4 or Midl. Sund.	5 37	6 23	3 58	3 7	5 32	11 21	4 27
31		5 3[illegible]	6 25	4 21	1 n 54	6 1	0 a 17	4 9

Days	Day increaſ.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ⊖	Helioc. long. ♀	Helioc. long ☿	♄ ſe s.
1	3 18	10 52	16 ♉ 3[illegible]	19 ♐ 34	9 ♎ 2	11 ♍ 11	0 ♓ 37	7 ♈ 13	10 a 58
7	3 32	11 16	16 47	20 23	11 46	17 12	10 7	10 ♉ 20	10 38
13	3 56	11 40	17 0	20 52	14 31	23 10	19 38	17 ♊ 29	10 19
19	4 29	12 4	17 12	21 21	17 17	29 8	27 10	24 ♋ 28	10 1
25	4 44	12 28	17 26	21 50	20 5	5 ♎ 4	3 ♈ 43	27 ♌ 2	9 43

March.

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☽'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	4 43	7 17	1 51	26♌ 7	2 s 10	0 n 25	2 n 5	1 s 24	1 s 9
7	4 30	7 30	1 52	25 48	2 9	0 25	2 8	1 26	0 11
13	4 17	7 43	1 53	25 29	2 7	0 25	2 7	1 26	1 n 3
19	4 4	7 56	1 54	25 10	2 6	0 24	2 4	1 23	2 18
25	3 50	8 10	1 56	24 51	2 5	0 24	2 1	1 18	3 10

Days	☉'s longitude	☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♓ 11 11 21	5♓20	0 s 47	11♉11	0♑ 7	10♏34	6♓43	17♓48
E	12 11 27	20 33	2 8	11 16	0 15	10 45	7 57	19 44
3	13 11 32	5♈44	3 19	11 21	0 23	10 55	9 12	21 40
4	14 11 35	20 43	4 10	11 26	0 31	11 5	10 27	23 35
5	15 11 35	5♉22	4 55	11 31	0 39	11 14	11 42	25 30
6	16 11 34	19 36	5 14	11 36	0 47	11 22	12 57	27 24
7	17 11 30	3♊22	5 14	11 42	0 55	11 30	14 12	29 17
8	18 11 23	16 42	4 57	11 47	1 2	11 37	15 26	1♈ 8
E	19 11 15	29 38	4 25	11 53	1 9	11 44	16 41	2 57
10	20 11 4	12♋12	3 42	11 58	1 16	11 50	17 56	4 44
11	21 10 51	24 29	2 49	12 4	1 23	11 55	19 11	6 28
12	22 10 35	6♌34	1 49	12 10	1 30	11 59	20 26	8 8
13	23 10 17	18 30	0 45	12 16	1 37	12 2	21 41	9 45
14	24 9 57	0♍21	0 n 20	12 22	1 43	12 5	22 56	11 17
15	25 9 35	12 9	1 24	12 28	1 49	12 8	24 11	12 44
E	26 9 11	23 57	2 24	12 34	1 55	12 R 11	25 25	14 7
17	27 8 45	5♎47	3 18	12 41	2 1	12 10	26 40	15 24
18	28 8 17	17 41	4 4	12 47	2 7	12 9	27 55	16 34
19	29 7 46	29 42	4 39	12 54	2 13	12 9	29 9	17 37
20	♈ 0 7 14	11♏49	5 2	13 0	2 18	12 8	0♈24	18 33
21	1 6 41	24 7	5 11	13 7	2 24	12 6	1 38	19 22
22	2 6 5	6♐38	5 7	13 13	2 29	12 3	2 53	20 5
E	3 5 28	19 23	4 47	13 20	2 34	12 0	4 7	20 41
24	4 4 49	2♑27	4 11	13 26	2 39	11 56	5 22	21 9
25	5 4 9	15 53	3 22	13 32	2 44	11 52	6 36	21 29
26	6 3 26	29 41	2 19	13 39	2 48	11 47	7 50	21 41
27	7 2 42	13♒54	1 6	13 46	2 52	11 41	9 5	21 R 46
28	8 1 56	28 30	0 s 13	13 52	2 56	11 34	10 19	21 44
29	9 1 9	13♓25	1 32	13 59	3 0	11 26	11 33	21 33
E	10 0 19	28 33	2 47	14 6	3 4	11 17	12 48	21 19
31	10 59 27	13♈45	3 40	14 13	3 8	11 7	14 2	20 55

Days	♃ riſes	♂ riſes	♀ riſes	☿ ſets	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	3 m 16	10 a 48	6 m 35	6 a 0	13 n 8	23 s 3	12 s 58	10 s 21	5 s 53
7	2 57	10 30	6 26	6 44	13 19	23 3	13 16	7 33	0 27
13	2 38	10 11	6 17	7 27	13 31	23 3	13 27	4 37	4 n 50
19	2 19	9 50	6 8	7 42	13 43	23 3	13 32	1 36	9 3
25	2 0	9 27	5 57	7 57	13 56	23 2	13 30	1 n 25	11 19

April hath xxx Days

The Lunations.

Firſt quarter the 7th day, at 21 minutes paſt 5 morning.
Full Moon the 15th day, at 6 minutes paſt 10 morning.
Laſt quarter the 23d day, at 12 minutes bef. 1 morning.
New Moon the 29th day, at 59 minutes paſt 3 afternoon.

M D	Sundays & other remark. days	⊙ riſes	⊙ ſets	⊙'s declin.	☽'s declin.	☽ riſes & ſets	☽ South	Clock bef. ⊙
1		5 33	6 27	4 n 44	6 n 47	☾ ſets	1 a 12	3′ 51″
2		5 31	6 29	5 7	11 9	9 a 24	2 8	3 33
3	Richard Bp. Ch.	5 29	6 31	5 30	14 45	10 42	3 3	3 15
4	St. Ambroſe	5 27	6 33	5 53	17 22	11 50	3 58	2 57
5	Old Lady Day	5 25	6 35	6 16	18 55	morn	4 53	2 39
[illegible]	5 Sun. in Lent	5 23	6 37	6 39	19 26	0 52	5 46	2 22
7		5 21	6 39	7 1	18 57	1 44	6 36	2 4
8		5 19	6 41	7 24	17 33	2 27	7 25	1 47
9		5 17	6 43	7 46	15 23	3 4	8 12	1 30
10		5 15	6 45	8 8	12 36	3 35	8 57	1 13
11	Cam. T. ends	5 13	6 47	8 30	9 19	4 1	9 41	0 57
12	Oxf. T. ends	5 11	6 49	8 52	5 40	4 26	10 23	0 41
[illegible]	6 or Palm Sun.	5 9	6 51	9 14	1 48	4 48	11 5	0 25
14		5 7	6 53	9 35	2 s 11	5 8	11 49	0 9
15		5 5	6 55	9 57	6 6	☾ riſes	morn	0 af. 6
16		5 4	6 56	10 18	9 49	8 a 5	0 32	0 21
17	Maundy Thurſ.	5 2	6 58	10 39	13 11	9 12	1 17	0 35
18	Good Friday	5 0	7 0	11 0	16 0	10 18	2 4	0 49
19	Alphege	4 58	7 2	11 21	18 6	11 19	2 54	1 3
[illegible]	Eaſter Day	4 56	7 4	11 41	19 18	morn	3 45	1 16
21	Eaſter Monday	4 54	7 6	12 1	19 31	0 10	4 39	1 29
22	Eaſter Tueſday	4 52	7 8	12 22	18 38	1 11	5 34	1 41
23	St. George	4 50	7 10	12 42	16 40	1 56	6 29	1 53
24	[M. b	4 49	7 11	13 1	13 40	2 34	7 24	2 4
25	St. Mark. Pr	4 47	7 13	13 21	9 46	3 8	8 19	2 15
26		4 45	7 15	13 40	5 14	3 39	9 14	2 25
[illegible]	1 or Low Sun.	4 43	7 17	13 59	0 19	4 7	10 8	2 35
28		4 41	7 19	14 18	4 n 39	4 34	11 2	2 44
29		4 40	7 20	14 37	9 19	☽ ſets	11 57	2 53
30	Ox. & Ca. T. beg.	4 38	7 22	14 55	13 22	8 a 20	0 a 53	3 1

Days	Day increaſ.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long ⊖	Helioc. long. ♀	Helioc. long. ☿	♄ ſets
1	5 10	12 54	17 ♉ 41	22 ♐ 24	23 ♎ 21	11 ♎ 59	19 ♈ 52	28 ♍ 4	9 a 23
7	5 34	13 18	17 55	22 53	26 11	17 52	29 27	19 ♎ 57	9 4
13	5 58	13 42	18 8	23 22	29 3	23 45	0 ♉ 2	8 ♏ 59	8 46
19	6 20	14 4	18 21	23 51	1 ♏ 55	29 36	18 39	26 29	8 28
25	6 42	14 26	18 34	24 20	4 49	5 ♏ 26	28 17	12 ♐ 55	8 10

April.

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☽'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	3 32	8 28	2 0	24♌28	2 s 4	0 n 24	1 n 54	1 s 10	3 n 12
7	3 16	8 44	2 4	24 9	2 3	0 24	1 48	1 1	2 13
13	3 0	9 0	2 9	23 50	2 2	0 23	1 36	0 50	0 39
19	2 43	9 17	2 1	23 31	2 2	0 23	1 24	0 38	0 s 56
25	2 26	9 34	2 20	23 12	2 [illegible]	0 23	1 10	0 25	2 8

Days	☉'s longitude	☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♈11 58 33	28♈50	4 s 35	14♉20	3♑12	10♏56	15♈16	20♈28
2	12 57 38	13♉38	5 2	14 27	3 15	10 44	16 31	19 58
3	13 56 40	28 3	5 8	14 34	3 18	10 31	17 45	19 21
4	14 55 40	12♊0	4 56	14 41	3 21	10 18	19 0	18 37
5	15 54 37	25 28	4 27	14 48	3 24	10 4	20 14	17 52
E	16 53 32	8♋28	3 46	14 55	3 27	9 50	21 29	17 7
7	17 52 25	21 3	2 55	15 2	3 30	9 35	22 43	16 22
8	18 51 15	3♌19	1 57	15 9	3 32	9 20	23 57	15 37
9	19 50 3	15 2	0 54	15 16	3 34	9 4	25 12	14 53
10	20 48 49	27 13	0 n 9	15 24	3 36	8 58	26 26	14 8
11	21 47 32	9♍1	1 12	15 31	3 38	8 31	27 40	13 27
12	22 46 13	20 48	2 12	15 38	3 40	8 14	28 54	12 49
E	23 44 52	2♎37	3 5	15 46	3 41	7 56	0♉8	12 13
14	24 43 29	14 32	3 51	15 54	3 42	7 38	1 23	11 42
15	25 42 4	26 35	4 27	16 1	3 43	7 19	2 37	11 10
16	26 40 37	8♏46	4 52	16 9	3 43	6 58	3 51	10 56
17	27 39 9	21 6	5 3	16 16	3 44	6 39	5 5	10 40
18	28 37 38	3♐37	5 0	16 24	3 44	6 18	6 19	10 26
19	29 36 6	16 19	4 42	16 31	3 45	5 57	7 33	10 22
E	♉0 34 32	29 14	4 9	16 39	3 R 45	5 35	8 47	10 D 21
21	1 32 57	12♑22	3 23	16 46	3 45	5 13	10 1	10 25
22	2 31 20	25 47	2 25	16 54	3 44	4 51	11 15	10 33
23	3 29 42	9♒28	1 17	17 1	3 44	4 29	12 29	10 46
24	4 28 2	23 28	0 3	17 9	3 43	4 7	13 43	11 4
25	5 26 21	7♓47	1 s 12	17 16	3 42	3 44	14 57	11 28
26	6 24 39	22 23	2 24	17 24	3 41	3 22	16 11	11 57
E	7 22 55	7♈12	3 28	17 31	3 39	2 59	17 25	12 28
28	8 21 9	22 8	4 17	17 39	3 38	2 37	18 39	13 2
29	9 19 22	7♉2	4 49	17 46	3 36	2 15	19 53	13 41
30	10 17 32	21 44	5 1	17 54	3 35	1 52	21 7	14 24

Days	♃ riſes	♂ riſes	♀ ſets	☿ riſes	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	1 m 36	8 a 56	6 a 42	5 m 28	14 n 11	23 s 2	13 s 19	4 n 57	10 n 58
7	1 16	8 27	7 4	5 4	14 24	23 2	13 2	7 54	8 30
13	0 56	7 57	7 24	4 45	14 37	23 2	12 39	10 45	5 26
19	0 34	7 24	7 45	4 31	14 51	23 2	12 12	13 27	3 15
5	0 13	6 50	8 6	4 18	15 4	23 2	11 40	15 57	2 35

May hath XXXI Days.

The Lunations.

Firſt quarter	the 6th day,	at 37	minutes paſt	9 night.
Full Moon	the 15th day,	at 19	minutes bef.	1 morning.
Laſt quarter	the 22d day,	at 24	minutes paſt	7 morning.
New Moon	the 29th day,	at 24	minutes bef.	1 morning.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☽'s declin.	☽ riſes & ſets	☽ South	Clock aft. ☉
1	Phil. and St. Ja.	4 36	7 24	15 n 13	16 n 31	9 a 36	1 a 49	3′ 9″
2		4 34	7 26	15 31	18 37	10 45	2 45	3 16
3	Inven. of Croſs	4 33	7 27	15 49	19 35	11 42	3 40	3 23
E	2 S. aft. Eaſter	4 31	7 29	16 6	19 27	morn	4 33	3 29
5		4 29	7 31	16 24	18 19	0 30	5 24	3 34
6	John Ev. a. P. L.	4 27	7 33	16 40	16 22	1 10	6 12	3 39
7	Eaſter T. beg.	4 26	7 34	16 57	13 43	1 43	6 58	3 44
8		4 24	7 36	17 13	10 31	2 10	7 42	3 48
9		4 23	7 37	17 29	6 55	2 35	8 25	3 51
10		4 21	7 39	17 45	3 4	2 57	9 7	3 54
E	3 S. af. Eaſter	4 19	7 41	18 0	0 s 55	3 18	9 49	3 56
12	Old May day	4 18	7 42	18 15	4 55	3 40	10 32	3 58
13		4 16	7 44	18 30	8 47	4 2	11 17	3 59
14		4 15	7 45	18 45	12 20	4 26	morn	3 59
15		4 13	7 47	18 59	15 23	☾ riſes	0 4	3 59
16		4 12	7 48	19 13	17 46	9 a 15	0 53	3 59
17		4 10	7 50	19 26	19 16	10 17	1 44	3 58
E	4 Sun. af. Eaſt.	4 9	7 51	19 40	19 46	11 14	2 37	3 56
19	Queen Cha. bo.	Dunſt.	7 52	19 52	19 10	11 59	3 32	3 53
20		4 6	7 54	20 5	17 27	morn	4 27	3 51
21		4 5	7 55	20 17	14 43	0 39	5 22	3 47
22	Pri. Eliſab. born	4 4	7 56	20 29	11 6	1 14	6 16	3 43
23		4 2	7 58	20 41	6 48	1 43	7 8	3 38
24		4 1	7 59	20 52	2 4	2 10	8 0	3 33
E	5 or Rogat. Su.	4 0	8 0	21 2	2 n 48	2 38	8 53	3 28
26	Auguſtin	3 59	8 1	21 13	7 32	3 5	9 46	3 22
27	Venerable Bede	3 58	8 2	21 23	11 50	3 33	10 39	3 15
28		3 57	8 3	21 33	15 23	3 58	11 33	3 8
29	Aſcen. K. Cha.	3 55	8 5	21 42	17 59	☾ ſets	0 a 29	3 0
30	[a. reſt.	3 54	8 6	21 51	19 28	9 a 27	1 25	2 52
31		3 53	8 7	22 0	19 48	10 22	2 20	2 43

Days	Day increaſ.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ⊖	Helioc. long. ♀	Helioc. long. ☿	♄ ſets
1	7 4	14 48	8 ♉ 47	24 ♐ 50	7 ♏ 45	11 ♏ 16	7 ♊ 56	29 ♐ 30	7 a 52
7	7 24	15 8	19 0	25 10	10 43	17 4	17 36	16 ♑ 51	7 33
13	7 44	15 28	19 13	25 48	13 42	22 51	27 18	5 ♒ 46	7 14
19	8 0	15 44	19 27	26 17	16 42	28 37	7 ♋ 0	27 20	6 55
25	8 10	16 0	19 40	26 47	19 45	4 ♐ 23	16 43	22 ♓ 46	6 36

M D	Day lig. begins	Daylig. ends	Durat. twilig.	Pl. ☾'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	2 7	9 55	2 31	22 ♌ 53	2 s 1	0 n 22	0 n 55	0 s 10	2 s 51
7	1 45	10 18	2 43	22 34	2 1	0 22	0 39	0 n 4	3 8
13	1 20	10 45	3 1	22 15	2 0	0 22	0 23	0 19	3 0
19	0 48	11 20	3 27	21 56	2 0	0 21	0 7	0 34	2 30
25	All day light.			21 37	2 0	0 20	0 s 8	0 48	1 43

M D	☉'s longitude	☾'s long.	☾'s latitud.	♄'s longit.	♃'s longit	♂'s longit.	♀'s longit.	☿'s long.
1	♉ 11 15 43	6 ♊ 7	4 s 54	18 ♉ 2	3 ♑ 33	1 ♏ 30	22 ♉ 20	15 ♈ 10
2	12 13 50	20 6	4 29	18 10	3 31	1 8	23 34	15 58
3	13 11 55	3 ♋ 37	3 50	18 17	3 28	0 47	24 48	16 51
E	14 9 58	16 40	2 59	18 25	3 25	0 25	26 2	17 49
5	15 8 0	29 19	2 2	18 33	3 23	0 4	27 16	18 48
6	16 6 0	11 ♌ 38	0 59	18 41	3 20	29 ♎ 44	28 30	19 51
7	17 3 58	23 41	0 n 4	18 49	3 17	29 25	29 43	20 57
8	18 1 54	5 ♍ 34	1 7	18 56	3 14	29 5	0 ♊ 57	22 5
9	18 59 48	17 22	2 6	19 4	3 10	28 46	2 11	23 14
10	19 57 40	29 11	3 0	19 12	3 6	28 27	3 24	24 29
E	20 55 31	11 ♎ 4	3 46	19 20	3 3	28 9	4 38	25 44
12	21 53 20	23 5	4 22	19 27	2 59	27 52	5 52	27 2
13	22 51 7	5 ♏ 17	4 47	19 35	2 55	27 36	7 5	28 24
14	23 48 53	17 41	4 59	19 43	2 50	27 22	8 19	29 48
15	24 46 37	0 ♐ 17	4 57	19 50	2 46	27 7	9 32	1 ♉ 14
16	25 44 20	13 6	4 40	19 58	2 41	26 52	10 46	2 41
17	26 42 2	26 7	4 8	20 6	2 37	29 38	11 59	4 10
E	27 39 43	9 ♑ 20	3 32	20 13	2 32	26 24	13 13	5 42
19	28 37 23	22 43	2 25	20 21	2 27	26 11	14 26	7 18
20	29 35 2	6 ♒ 17	1 18	20 29	2 22	25 59	15 39	8 56
21	♊ 0 32 40	20 3	0 6	20 37	2 16	25 48	16 53	10 34
22	1 30 17	4 ♓ 0	1 s 7	20 44	2 11	25 38	18 6	12 16
23	2 27 53	18 9	2 17	20 52	2 5	25 28	19 20	14 0
24	3 25 28	2 ♈ 28	3 20	20 59	2 0	25 19	20 33	15 46
E	4 23 2	16 56	4 10	21 7	1 54	25 11	21 46	17 35
26	5 20 36	1 ♉ 27	4 45	21 15	1 47	25 4	22 59	19 26
27	6 18 9	15 57	5 1	21 2	1 41	24 58	24 13	21 19
28	7 15 41	0 ♊ 19	4 57	21 30	1 34	24 53	25 26	23 14
29	8 13 12	14 26	4 36	21 37	1 28	24 49	26 39	25 11
30	9 10 42	28 14	3 59	21 45	1 21	24 46	27 53	27 10
31	10 8 11	11 ♋ 38	3 9	21 52	1 15	24 43	29 6	29 12

M D	♃ riſes.	♂ ſets	♀ ſets	☿ riſes.	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	11 a 30	4 m 31	8 a 26	3 m 54	15 n 17	23 s 3	11 s 9	18 n 12	3 n 21
7	11 15	4 2	8 46	3 48	15 30	23 3	10 40	20 11	5 17
13	10 50	3 33	9 4	3 43	15 43	23 4	10 17	21 50	8 7
19	10 24	3 6	9 21	3 3	15 56	23 5	10 0	23 7	11 36
25	9 57	2 39	9 36	3 28	16 8	23 7	9 53	24 0	15 27

June hath xxx Days.

The Lunations.

First quarter the 5th day, at 54 minutes paſt 2 afternoon.
Full Moon the 13th day, at 38 minutes paſt 0 noon.
Laſt quarter the 20th day, at 10 minutes paſt 0 noon.
New Moon the 27th day, at 16 minutes paſt 10 morning.

M D	Sundays & other remark. days.	☉ riſes	☉ ſets	☉'s declin.	☽'s declin.	☽ riſes & ſets	☽ South	Clock aft. ☉
E	Sun. af. Aſcen.	Nicom.	C.T.di.	22 n 8	19 n 4	11 a 5	3 a 13	2′ 35″
2	Eaſter T. ends	3 52	8 8	22 16	17 24	11 41	4 3	2 25
3		3 51	8 9	22 23	14 55	morn	4 51	2 16
4	K. Geo. III. b.	3 50	8 10	22 30	11 51	0 12	5 36	2 6
5	Pr. Ern. Aug. b.	Bonifa.	Ox.T.e	22 37	8 20	0 38	6 19	1 55
6		3 48	8 12	22 43	4 31	1 0	7 1	1 45
7		3 48	8 12	22 49	0 32	1 22	7 4[illegible]	1 34
E	Whit Sunday	3 47	8 13	22 54	3 s 29	1 42	8 25	1 23
9	Whit Monday	3 46	8 14	22 59	7 26	2 4	9 9	1 11
10	Whit Tueſday	3 46	8 14	23 4	11 9	2 27	9 55	1 0
11	St. Barna. Emb.	3 45	8 15	23 8	14 25	2 54	10 43	0 48
12	[Week	3 45	8 15	23 12	17 6	3 24	11 34	0 36
13		3 44	8 16	23 15	18 59	☽ riſes	morn	0 24
14		3 44	8 16	23 18	19 50	9 a 3	0 27	0 11
E	Trinity Sunday	3 44	8 16	23 21	19 34	9 53	1 22	0bef. 1
16		3 44	8 16	23 23	18 8	10 37	2 18	0 14
17	St. Alban	3 43	8 17	23 25	15 37	11 14	3 13	0 27
18	Oxf. Term be.	3 43	8 17	23 26	12 10	11 44	4 8	0 40
19	Corpus Chriſti	3 43	8 17	23 27	8 0	morn	5 1	0 52
20	Tra Edw. KWS	Ter. be	8 17	23 28	3 24	0 12	5 53	1 5
21	Longeſt Day	3 43	8 17	23 28	1 n 25	0 38	6 44	1 18
E	1 Sun. af. Trin.	3 43	8 17	23 28	6 8	1 3	7 35	1 31
23		3 43	8 17	23 27	10 30	1 31	8 27	1 44
24	Nativ. J. Bap.	Midſ.	8 17	23 26	14 16	2 1	9 20	1 57
25		3 43	8 17	23 24	17 10	2 34	10 14	2 10
26		3 44	8 16	23 22	19 5	3 11	11 8	2 23
27		3 44	8 16	23 20	19 52	☽ ſets	0 a 3	2 35
28		3 44	8 16	23 17	19 33	8 a 56	0 57	2 48
E	2 S. af. Tri. St.	3 45	8 15	23 14	18 12	9 34	1 48	3 0
30	[Peter	3 45	8 15	23 10	16 0	10 8	2 38	3 12

M D	Day increaſ.	Length of day	Helioc. long. ♄	Helioc long. ♃	Helioc. long. ♂	Helioc. long. ⊖	Helioc. long. ♀	Helioc. long. ☿	♄ riſes
1	8 32	16 16	19 ♉ 55	27 ♐ 21	23 ♏ 20	11 ♐ 6	28 ♋ 5	28 ♈ 51	3m 14
7	8 40	16 24	20 8	27 50	26 26	16 50	7 ♌ 50	5 ♊ 1	2 51
13	8 48	16 32	20 21	28 20	29 35	22 34	17 36	12 ♋ 37	2 28
19	8 50	16 34	20 35	28 49	2 ♐ 45	28 17	27 21	16 ♌ 57	2 5
25	8 50	16 34	20 48	29 19	5 58	4 ♑ 1	7 ♍ 7	15 ♍ 46	1 42

M D	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☾'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1				21 ♌ 14	2 s 0	0 n 20	0 s 24	1 n 3	0 s 31
7				20 55	2 0	0 19	0 36	1 14	0 n 32
13	All	day-	light.	20 36	2 1	0 18	0 47	1 24	1 24
19				20 17	2 1	0 17	0 57	1 32	1 52
25				19 58	2 1	0 17	1 6	1 37	1 54

M D	☉'s longitude	☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
E	♊ 11 5 38	24 ♋ 39	2 s 11	22 ♉ 0	1 ♑ 8	24 ♎ 40	0 ♋ 20	1 ♊ 15
2	12 3 5	7 ♌ 18	1 7	22 8	1 2	24 38	1 33	3 19
3	13 0 31	19 37	0 2	22 15	0 55	24 37	2 46	5 25
4	13 57 55	1 ♍ 41	1 n 2	22 23	0 48	24 D 36	4 0	7 34
5	14 55 18	13 36	2 2	22 30	0 41	24 37	5 13	9 44
6	15 52 40	25 26	2 57	22 38	0 34	24 40	6 26	11 54
7	16 50 1	7 ♎ 17	3 45	22 45	0 27	24 45	7 39	14 5
E	17 47 21	19 14	4 22	22 52	0 20	24 50	8 52	16 17
9	18 44 40	1 ♏ 20	4 49	22 59	0 12	24 56	10 5	18 29
0	19 41 58	13 40	5 3	23 7	0 5	25 1	11 18	20 41
11	20 39 15	26 15	5 2	23 14	29 ♐ 58	25 7	12 31	22 53
12	21 36 31	9 ♐ 7	4 47	23 21	29 51	25 12	13 44	25 4
13	22 33 46	22 14	4 16	25 28	29 43	25 18	14 57	27 14
14	23 31 1	5 ♑ 37	3 31	23 35	29 36	25 25	16 10	29 23
E	24 28 16	19 12	2 32	23 42	29 28	25 33	17 23	1 ♋ 31
16	25 25 31	2 ♒ 58	1 25	23 49	29 20	25 42	18 36	3 38
17	26 22 45	16 53	0 11	23 56	29 13	25 52	19 49	5 44
18	27 19 59	0 ♓ 54	1 s 4	24 3	29 5	26 3	21 2	7 47
19	28 17 13	15 0	2 16	24 10	28 57	26 15	22 14	9 48
20	29 14 27	29 9	3 20	24 17	28 50	26 27	23 27	11 48
21	♋ 0 11 40	13 ♈ 20	4 11	24 24	28 42	26 40	24 40	13 46
E	1 8 54	27 32	4 47	24 30	28 34	26 53	25 53	15 41
23	2 6 8	11 ♉ 41	5 6	24 37	28 27	27 7	27 6	17 34
24	3 3 22	25 45	5 6	24 44	28 19	27 21	28 19	19 25
25	4 0 36	9 ♊ 40	4 48	24 50	28 11	27 36	29 31	21 15
26	4 57 50	23 22	4 13	24 57	28 4	27 51	0 ♌ 44	23 3
27	5 55 4	6 ♋ 49	3 25	25 3	27 56	28 7	1 57	24 48
28	6 52 18	19 57	2 27	25 10	27 49	28 24	3 9	26 30
E	7 49 32	2 ♌ 47	1 23	25 16	27 41	28 41	4 22	28 10
30	8 46 46	15 19	0 16	25 23	27 34	28 59	5 35	29 49

M D	♃ riſes	♂ ſets	♀ ſets	☿ ſets	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	9 a 32	2 m 6	9 a 47	7 a 10	16 n 21	23 s 8	9 s 56	24 n 31	19 n 55
7	9 4	1 42	9 55	8 1	16 32	23 9	10 10	24 29	23 3
13	8 36	1 17	9 59	8 45	16 43	23 10	10 31	24 1	24 50
19	8 8	0 52	9 59	9 16	16 53	23 10	11 2	23 8	24 58
25	7 40	0 29	9 57	9 32	17 2	23 10	11 40	21 51	23 39

July hath xxxi Days.

The Lunations.

Firſt quarter the 5th day, at 14 minutes paſt 8 morning.
Full Moon the 12th day, at 35 minutes paſt 10 night.
Laſt quarter the 19th day, at 33 minutes paſt 4 afternoon.
New Moon the 26th day, at 3 minutes paſt 10 night.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☽'s declin.	☽ riſes & ſets	☽ South	Clock bef. ☉
1	Camb. Comm.	3 46	8 14	23 n 6	13 n 7	10 a 35	3 a 24	3′ 24″
2	Viſit.of B.V.M.	3 46	8 14	23 2	9 44	10 59	4 8	3 35
3	Dog days begin	3 47	8 13	22 57	5 59	11 21	4 51	3 46
4	Trans. St. Mar.	C. T. e.	8 13	22 52	2 2	11 42	5 33	3 57
5	Old Midſum. d.	3 48	8 12	22 46	1 s 59	morn	6 15	4 7
[illegible]	Sun. af. Trin.	3 49	8 11	22 40	5 57	0 3	6 57	4 17
7	Tho. à Becket	3 49	8 11	22 34	9 45	0 24	7 41	4 27
8		3 50	8 10	22 27	13 12	0 48	8 28	4 37
9	Term ends	3 51	8 9	22 20	16 8	1 18	9 18	4 46
10		3 52	8 8	22 13	18 21	1 52	10 10	4 54
11		3 53	8 7	22 5	19 38	2 33	11 5	5 2
12		3 54	8 6	21 56	19 49	☽ riſes	morn	5 10
[illegible]	Sun. af. Trin.	3 55	8 5	21 48	18 47	8 a 28	0 2	5 17
14	Oxford Act	3 56	8 4	21 39	16 34	9 9	0 59	5 23
15	Swithin.	3 57	8 3	21 29	13 19	9 42	1 56	5 30
16		3 58	8 2	21 19	9 14	10 12	2 51	5 35
17		3 59	8 1	21 9	4 38	10 38	3 44	5 41
18		4 0	8 0	20 59	0 n 12	11 3	4 36	5 45
19	Oxford Ter. en.	4 1	7 59	20 48	4 59	11 31	5 28	5 49
[illegible]	5 Sun. af. Trin.	Marga.	7 57	20 37	9 26	11 59	6 20	5 53
21		4 4	7 56	20 25	13 19	morn	7 11	5 56
22	Magdalen	4 5	7 55	20 13	16 26	0 31	8 4	5 59
23		4 7	7 53	20 1	18 35	1 8	8 58	6 1
24		4 8	7 52	19 48	19 43	1 52	9 52	6 3
25	St. James	4 9	7 51	19 36	19 45	2 42	10 45	6 4
26	S. Anne	4 11	7 49	19 22	18 46	☽ ſets	11 37	6 4
[illegible]	6 Sun. af. Trin.	4 12	7 48	19 9	16 51	8 a 5	0 a 28	6 4
28		4 14	7 46	18 55	14 11	8 36	1 16	6 3
29		4 15	7 45	18 41	10 56	9 0	2 1	6 1
30		4 17	7 43	18 26	7 17	9 24	2 44	5 59
31		4 18	7 42	18 11	3 24	9 45	3 27	5 57

M D	Day decreaſ.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ⊖	Helioc. long. ♀	Helioc. long. ☿	♄ riſes
1	0 6	16 28	21 ♉ 1	29 ♐ 49	9 ♐ 12	9 ♑ 44	16 ♋ 52	9 ♎ 34	1 m 19
7	0 12	16 22	21 14	0 ♑ 18	12 29	15 27	26 36	29 51	0 56
13	0 24	16 10	21 27	0 48	15 47	21 10	6 ♎ 18	17 ♏ 55	0 32
19	0 36	15 58	21 40	1 17	19 7	26 54	16 0	4 ♐ 47	0 8
25	0 52	15 42	21 54	1 47	22 30	2 ♒ 38	25 40	21 17	11 a 44

July.

M D	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☽'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1				19♌39	2 s 2	0 n 16	1 s 15	1 n 40	1 n 33
7	All	day-	light.	19 20	2 3	0 15	1 21	1 40	0 51
13				19 1	2 3	0 14	1 27	1 38	0 s 7
19				18 42	2 4	0 13	1 32	1 33	1 18
25	0 45	11 10	3 20	18 23	2 5	0 12	1 37	1 24	2 35

M D	☉'s longitude	☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♋ 9 43 58	27♌35	0 n 51	25♉29	27♐27	29♎18	6♌47	1♌25
2	10 41 10	9♍38	1 54	25 35	27 20	29 37	8 0	2 59
3	11 38 23	21 33	2 52	25 41	27 12	29 57	9 12	4 31
4	12 35 36	3♎24	3 42	25 48	27 5	0♏17	10 25	6 0
5	13 32 49	15 16	4 22	25 54	26 58	0 37	11 37	7 27
E	14 30 1	27 13	4 52	26 0	26 50	0 58	12 50	8 52
7	15 27 12	9♏22	5 9	26 6	26 43	1 19	14 2	10 16
8	16 24 24	21 45	5 12	26 12	26 36	1 40	15 14	11 37
9	17 21 36	4♐26	5 0	26 18	26 29	2 2	16 27	12 55
10	18 18 48	17 27	4 33	26 23	26 23	2 25	17 39	14 11
11	19 16 0	0♑49	3 50	26 29	29 16	2 48	18 51	15 24
12	20 13 12	14 30	2 53	26 35	26 10	3 12	20 3	16 35
E	21 10 24	28 29	1 44	26 40	26 4	3 36	21 15	17 44
14	22 7 37	12♒40	0 28	26 46	25 58	4 0	22 27	18 50
15	23 4 50	27 1	0 s 50	26 51	25 52	4 25	23 39	19 53
16	24 2 4	11♓25	2 6	26 57	25 46	4 50	24 51	20 52
17	24 59 19	25 49	3 14	27 2	25 40	5 15	26 3	21 48
18	25 56 35	10♈10	4 10	27 7	25 34	5 41	27 15	22 42
19	26 53 51	24 24	4 49	27 12	25 29	6 7	28 27	23 33
E	27 51 9	8♉29	5 11	27 17	25 23	6 33	29 38	24 20
21	28 48 27	22 23	5 14	27 22	25 18	7 0	0♍50	25 4
22	29 45 46	6♊6	5 0	27 27	25 13	7 27	2 2	25 44
23	♌ 0 43 7	19 36	4 28	27 32	25 8	7 55	3 14	26 20
24	1 40 28	2♋52	3 43	27 37	25 3	8 23	4 25	26 52
25	2 37 50	15 54	2 47	27 42	24 58	8 52	5 37	27 21
26	3 35 13	28 42	1 43	27 46	24 54	9 21	6 49	27 45
E	4 32 37	11♌16	0 36	27 51	24 50	9 50	8 1	28 4
28	5 30 2	23 36	0 n 33	27 55	24 46	10 19	9 12	28 29
29	6 27 27	5♍45	1 38	28 0	24 42	10 49	10 24	28 39
30	7 24 53	17 44	2 39	28 4	24 38	11 19	11 36	28 34
31	8 22 20	29 37	3 32	28 8	24 34	11 50	12 47	28 R 34

M D	♃ ſets	♂ ſets	♀ ſets	☿ ſets	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	3 m 1	0 m 6	9 a 51	9 a 36	17 n 10	23 s 11	12 s 24	20 n 13	21 n 22
7	2 34	11 a 42	9 44	9 25	17 19	23 11	13 14	18 14	18 30
13	2 7	11 20	9 33	9 14	17 26	23 11	14 6	15 59	15 25
19	1 40	11 1	9 23	8 54	17 32	23 11	15 1	13 29	12 27
25	1 14	10 42	9 10	8 29	17 38	23 11	16 0	10 46	9 59

Auguſt hath xxxi Days.

The Lunations.

First quarter the 4th day, at 5 minutes bef. 1 morning.
Full Moon the 11th day, at 24 minutes paſt 7 morning.
Laſt quarter the 17th day, at 13 minutes paſt 10 night.
New Moon the 25th day, at 23 minutes paſt 0 noon.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☽'s declin.	☽ riſes & ſets	☽ South	Clock bef. ☉
1	Lammas Day	4 20	7 40	17 n 56	0 s 37	10 a 6	4 a 9	5′ 53″
2		4 21	7 39	17 41	4 35	10 27	4 51	5 49
E	7 Sun. af. Trin.	4 23	7 37	17 25	8 25	10 49	5 34	5 45
4		4 24	7 36	17 9	11 57	11 16	6 19	5 40
5		4 26	7 34	16 53	15 3	11 47	7 6	5 34
6	Transfiguration	4 28	7 32	16 37	17 32	morn.	7 57	5 28
7	Prs. Amelia b.	Na. of J.	7 31	16 20	19 12	0 24	8 50	5 21
8		4 31	7 29	16 3	19 50	1 10	9 46	5 13
9		4 33	7 27	15 45	19 19	2 7	10 44	5 5
E	8 Sun. a. Trin.	St. Lau.	7 25	15 28	17 35	3 13	11 43	4 56
11	Prs. Brunſ. b.	Dogd. e.	7 24	15 10	14 41	☽ riſes	morn	4 4
12	Pr. of Wales b.	O. Lam	7 22	14 52	10 47	8 a 17	0 40	4 37
13		4 40	7 20	14 34	6 12	8 42	1 35	4 26
14		4 42	7 18	14 15	1 16	9 8	2 30	4 15
15	Aſſumption	4 43	7 17	13 57	3 n 41	9 36	3 24	4 4
16	Du. of York b.	4 45	7 15	13 38	8 21	10 5	4 17	3 52
E	9 Sun. af. Trin.	4 47	7 13	13 18	12 26	10 36	5 10	3 39
18		4 49	7 11	12 59	15 46	11 12	6 3	3 26
19		4 50	7 10	12 39	18 10	11 54	6 57	3 13
20		4 52	7 8	12 20	19 32	morn	7 51	2 59
21	D. of Claren. b.	4 54	7 6	12 0	19 49	0 41	8 44	2 45
22		4 56	7 4	11 39	19 6	1 35	9 36	2 30
23		4 58	7 2	11 19	17 26	2 36	10 27	2 15
E	10 S.a.Tri. St.	5 0	7 0	10 59	15 0	3 39	11 15	1 59
25	[Bartholo.	5 2	6 58	10 38	11 55	☽ ſets	0 a 1	1 43
26		5 3	6 57	10 17	8 23	7 a 32	0 46	1 26
27		5 5	6 55	9 56	4 32	7 54	1 29	1 10
28	St. Auguſtine	5 7	6 53	9 35	0 33	8 15	2 1	0 52
29	Beh. J. Bap.	5 9	6 51	9 13	3 s 27	8 36	2 53	0 35
30		5 11	6 49	8 52	7 19	8 58	3 35	0 17
E	11 Sun. af. Tri.	5 13	6 47	8 30	10 56	9 22	4 18	0 af 1

M D	Day decreaſ.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ⊖	Helioc. long. ♀	Helioc. long. ☿	♄ riſes
1	1 14	15 20	22 ♉ 9	2 ♑ 21	26 ♐ 29	9 ♒ 20	6 ♏ 54	11 ♑ 3	11 a 19
7	1 32	15 2	22 22	2 51	29 56	15 5	16 30	29 2	10 56
13	1 54	14 40	22 35	3 21	3 ♑ 25	20 50	26 9	19 ♒ 55	10 34
19	2 14	14 20	22 48	3 50	6 56	26 37	5 ♐ 38	13 ♓ 55	10 12
25	2 38	13 56	23 2	4 20	10 29	2 ♓ 24	15 9	12 ♈ 40	9 51

Auguſt.

M D	Day-lig begins	Day-lig ends	Durat. twilig.	Pl. ☽'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	1 23	10 30	2 56	18♌ 1	2 s 6	0 n 11	1 s 40	1 n 11	3 s 59
7	1 46	10 13	2 43	17 42	2 7	0 10	1 44	0 57	4 45
13	2 7	9 52	2 32	17 23	2 8	0 9	1 47	0 40	4 36
19	2 27	9 32	2 23	17 3	2 9	0 8	1 49	0 21	3 26
25	2 46	9 13	2 15	16 44	2 10	0 7	1 51	0 s 1	1 39

M D	☉'s longitude			☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♌ 9	19	48	11♎27	4 n 16	28♉12	24♐30	12♏20	13♍58	28♌29
2	10	17	16	23 1	4 49	28 16	24 27	12 50	15 10	28 21
E	11	14	45	5♏16	5 10	28 20	24 24	13 21	16 21	28 5
4	12	12	14	17 23	5 17	28 24	24 21	13 52	17 32	27 40
5	13	9	44	29 45	5 10	28 28	24 18	14 24	18 43	27 12
6	14	7	15	12♐25	4 49	28 31	24 15	14 56	19 54	26 41
7	15	4	46	25 28	4 11	28 35	24 12	15 29	21 5	26 7
8	16	2	18	8♑55	3 19	28 38	24 10	16 2	22 16	25 28
9	16	59	52	22 46	2 14	28 41	24 8	16 35	23 27	24 44
E	17	57	27	7♒ 0	0 59	28 45	24 6	17 8	24 38	23 56
11	18	55	2	21 32	0 s 21	28 48	24 4	17 41	25 49	23 7
12	19	52	39	6♓17	1 41	28 51	24 2	18 14	27 0	22 17
13	20	50	18	21 [illegible]	2 55	28 54	24 0	18 48	28 10	21 27
14	21	47	58	5♈56	3 57	28 57	23 58	19 22	29 21	20 37
15	22	45	39	20 36	4 42	29 0	23 57	19 56	0♎31	19 48
16	23	43	22	5♉ 2	5 9	29 2	23 56	20 31	1 42	19 2
E	24	41	7	19 10	5 17	29 5	23 56	21 5	2 52	18 20
18	25	38	53	3♊ 0	5 6	29 8	23 55	21 40	4 3	17 42
19	26	36	41	16 31	4 38	29 10	23 55	22 15	5 13	17 8
20	27	34	31	29 44	3 56	29 12	23D55	22 50	6 23	16 41
21	28	32	23	12♋39	3 3	29 15	23 55	23 26	7 33	16 21
22	29	30	16	25 20	2 1	29 17	23 56	24 2	8 43	16 8
23	♍ 0	28	11	7♌48	0 55	29 19	23 56	24 38	9 53	16D 2
E	1	26	8	20 6	0 n 13	29 21	23 57	25 14	11 3	16 4
25	2	24	7	2♍13	1 19	29 23	23 58	25 50	12 13	16 15
26	3	22	7	14 14	2 21	29 25	23 59	26 26	13 23	16 34
27	4	20	9	26 8	3 16	29 26	24 0	27 2	14 33	17 1
28	5	18	12	7♎59	4 3	29 28	24 2	27 39	15 42	17 36
29	6	16	16	19 48	4 39	29 29	24 3	28 16	16 52	18 19
30	7	14	22	1♏39	5 3	29 31	24 5	28 53	18 1	19 10
E	8	12	30	13 36	5 14	29 32	24 6	29 31	19 11	20 8

M D	♃ ſets	♂ ſets	♀ ſets	☿ ſets	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	0 m 45	10 a 21	8 a 56	7 a 55	17 n 45	23 s 10	17 s 8	7 n 25	8 n 17
7	0 20	10 5	8 44	riſes	17 48	23 11	18 9	4 24	8 21
13	11 a 56	9 50	8 31	5 m 2	17 51	23 11	19 9	1 19	10 0
19	11 32	9 35	8 18	4 13	17 54	23 12	20 7	1 s 45	12 27
25	11 9	9 22	8 6	3 48	17 56	23 13	21 2	4 51	14 24

The Lunations.

Firſt quarter	the 2d day,	at 28 minutes paſt	4 afternoon.
Full Moon	the 9th day,	at 51 minutes paſt	3 afternoon.
Laſt quarter	the 16th day,	at 40 minutes paſt	6 morning.
New Moon	the 24th day,	at 54 minutes paſt	4 morning.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☽'s declin.	☽ riſes & ſets	☽ South	Clock aft. ☉
1	Giles	5 15	6 45	8 n 8	14 s 9	9 a 51	5 a 5	0' 20''
2	Lond. bur. 1666	5 17	6 43	7 46	16 48	10 25	5 53	0 39
3		5 19	6 41	7 24	18 44	11 6	6 44	0 58
4		5 21	6 39	7 2	19 46	11 57	7 38	1 17
5		5 23	6 37	6 40	19 44	morn	8 34	1 37
6		5 24	6 36	6 17	18 31	0 58	9 31	1 57
E	12 Sun. af. Tri.	Enurch	6 34	5 55	16 7	2 7	10 29	2 17
8	Nativ. V. M.	5 28	6 32	5 32	12 37	3 20	11 26	2 38
9		5 30	6 30	5 10	8 14	☾ riſes	morn	2 58
10		5 32	6 28	4 47	3 17	7 a 16	0 23	3 19
11		5 34	6 26	4 24	1 n 52	7 45	1 19	3 40
12		5 36	6 24	4 1	6 51	8 14	2 15	4 1
13		5 38	6 22	3 38	11 19	8 44	3 10	4 22
E	13 Sun. af. Tri.	5 40	6 20	3 15	15 1	9 20	4 5	4 43
15	[Holy Cro.	5 42	6 18	2 52	17 44	10 0	5 0	5 4
16		5 44	6 16	2 29	19 23	10 46	5 55	5 25
17	Ember Week	Lambe.	6 14	2 5	19 56	11 38	6 49	5 46
18		5 48	6 12	1 42	19 27	morn	7 41	6 7
19		5 50	6 10	1 19	18 0	0 37	8 32	6 28
20	[Matthew	5 52	6 8	0 55	15 43	1 39	9 21	6 48
E	14 S. a. Tr. St.	5 54	6 6	0 32	12 47	2 43	10 8	7 9
22	K. Geo. III. cr.	5 56	6 4	0 9	9 21	3 48	10 53	7 30
23		5 58	6 2	0 s 15	5 34	4 56	11 36	7 50
24		6 0	6 0	0 38	1 35	☽ ſets	0 a 18	8 11
25	Old Holy Rood	6 2	5 58	1 2	2 s 27	6 a 50	1 0	8 31
26	St. Cyprian	6 3	5 57	1 25	6 24	7 13	1 43	8 51
27		6 5	5 55	1 49	10 7	7 36	2 26	9 11
E	15 Sun. af. Tri.	6 7	5 53	2 12	13 28	8 2	3 11	9 31
29	St. Mi. Prs. Ro. b	6 9	5 51	2 35	16 18	8 32	3 58	9 50
30	St. Jerome	6 11	5 49	2 59	18 25	9 11	4 47	10 9

M D	Day decreaſ.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ⊖	Helioc. long. ♀	Helioc. long. ☿	♄ riſes
1	3 4	13 30	23 ♉ 17	4 ♑ 54	14 ♑ 40	9 ♓ 11	26 ♐ 15	22 ♉ 46	9 a 27
7	3 26	13 8	23 30	5 24	18 17	15 0	5 ♑ 44	0 ♋ 25	9 5
13	3 50	12 44	23 44	5 53	21 55	20 50	15 13	6 ♌ 15	8 43
19	4 14	12 20	23 57	6 23	25 35	26 41	24 42	6 ♍ 53	8 21
25	4 38	11 56	24 10	6 53	29 17	2 ♈ 35	4 ♒ 11	2 ♎ 11	8 1

M D	Day lig. begins	Day lig ends.	Durat. twilig.	Pl. ☽'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	3 6	8 53	2 8	16♌22	2 s 12	0 n 6	1 s 52	0 s 28	0 n 16
7	3 22	8 37	2 4	16 3	2 13	0 5	1 53	0 52	1 21
13	3 37	8 23	2 0	15 44	2 14	0 5	1 53	1 17	1 48
19	3 51	8 8	1 58	15 25	2 15	0 4	1 53	1 43	1 45
25	4 4	7 54	1 56	15 6	2 16	0 3	1 53	2 8	1 22

M D	☉'s longitude	☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♍ 9 10 39	25♏41	5 n 12	29♉33	24♐ 8	0♐ 9	20♎20	21♌11
2	10 8 49	8♐ 0	4 55	29 34	24 10	0 47	21 30	22 19
3	11 7 1	20 36	4 24	29 35	24 13	1 25	22 39	23 37
4	12 5 14	3♑33	3 39	29 36	24 16	2 4	23 48	25 5
5	13 3 28	16 55	2 41	29 37	24 19	2 42	24 57	26 36
6	14 1 44	0♒45	1 31	29 38	24 22	3 20	26 6	28 9
E	15 0 1	15 1	0 14	29 38	24 25	3 59	27 15	29 43
8	15 58 20	29 41	1 s 6	29 38	24 29	4 38	28 23	1♍21
9	16 56 41	14♓40	2 23	29 39	24 32	5 17	29 32	3 6
10	17 55 4	29 50	3 31	29 R 39	24 36	5 56	0♏40	4 53
11	18 53 29	15♈ 1	4 24	29 39	24 40	6 35	1 49	6 42
12	19 51 56	0♉ 2	4 58	29 38	24 44	7 14	2 57	8 31
13	20 50 24	14 46	5 12	29 38	24 48	7 54	4 5	10 21
E	21 48 55	29 7	5 5	29 38	24 53	8 34	5 13	12 12
15	22 47 28	13♊ 2	4 41	20 37	24 57	9 14	6 21	14 4
16	23 46 4	26 31	4 2	29 37	25 2	9 54	7 28	15 56
17	24 44 42	9♋37	3 11	29 36	25 7	10 34	8 36	17 48
18	25 43 22	22 21	2 12	29 36	25 12	11 14	9 44	19 40
19	26 42 4	4♌48	1 7	29 35	25 17	11 54	10 51	21 31
20	27 40 49	17 3	0 1	29 34	25 23	12 35	11 58	23 22
E	28 39 36	29 7	1 n 4	29 33	25 28	13 15	13 15	25 13
22	29 38 25	11♍ 5	2 6	29 32	25 34	13 56	14 12	27 3
23	♎ 0 37 16	22 58	3 1	29 30	25 40	14 37	15 19	28 53
24	1 36 9	4♎49	3 48	29 29	25 46	15 18	16 26	0♎41
25	2 35 5	16 39	4 26	29 27	25 52	15 59	17 33	2 28
26	3 34 3	28 30	4 52	29 26	25 59	16 40	18 39	4 15
27	4 33 2	10♏24	5 5	29 24	26 5	17 22	19 45	6 1
E	5 32 3	22 23	5 5	29 23	26 12	18 4	20 51	7 46
29	6 31 6	4♐30	4 52	29 21	26 18	18 46	21 57	9 30
30	7 30 11	16 48	4 25	29 19	26 25	19 28	23 3	11 14

M D	♃ ſets	♂ ſets	♀ ſets	☿ riſes	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	10 a 42	9 a 8	7 a 51	3 m 39	17 n 56	23 s 14	22 s 2	8 s 23	14 n 42
7	10 21	8 58	7 41	3 55	17 56	23 15	22 49	11 19	12 51
13	10 1	8 49	7 29	4 33	17 55	23 17	23 31	14 7	9 21
19	9 42	8 40	7 19	5 16	17 53	23 19	24 7	16 44	4 59
25	9 24	8 33	7 9	5 57	17 51	23 21	24 36	19 8	0 16

Oɑober hath xxxi Days.

The Lunations.

Firſt quarter the 2d day, at 33 minutes paſt 6 morning.
Full Moon the 8th day, at 29 minutes paſt 12 night.
Laſt quarter the 15th day, at 0 minutes paſt 7 night.
New Moon the 23d day, at 38 minutes paſt 10 night.
Firſt quarter the 31ſt day, at 47 minutes paſt 6 afternoon.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☽'s declin.	☽ riſes & ſets	☽ South	Clock aft. ☉
1	Remigius	6 13	5 47	3 s 22	19 s 43	9 a 56	5 a 38	10′ 28″
2		6 15	5 45	3 45	20 3	10 50	6 31	10 47
3		6 17	5 43	4 9	19 17	11 55	7 26	11 5
4		6 19	5 41	4 32	17 23	morn	8 22	11 24
E	16 Sun. af. Tri.	6 21	5 39	4 55	14 23	1 6	9 18	11 41
6	Faith	6 23	5 37	5 18	10 25	2 24	10 14	11 59
7		6 25	5 35	5 41	5 41	3 46	11 10	12 16
8		6 27	5 33	6 4	0 31	☽ riſes	morn	12 32
9	St. Denys	6 29	5 31	6 27	4 n 41	6 a 17	0 6	12 48
10	Ox. & Cam. T. b	O. Mic.	5 29	6 50	9 35	6 48	1 2	13 4
11		6 33	5 27	7 12	13 48	7 23	1 59	13 19
E	17 Sun. af. Tri.	6 3	5 25	7 35	17 3	8 2	2 56	13 34
13	Tr. K. Edw Con.	6 37	5 23	7 58	19 10	8 46	3 53	13 48
14		6 39	5 21	8 20	20 6	9 38	4 49	14 2
15		6 41	5 19	8 42	19 53	10 37	5 44	14 15
16		6 43	5 17	9 4	18 39	11 38	6 37	14 27
17	Ethbeldred.	6 44	5 16	9 26	16 32	morn	7 27	14 39
18	St. Luke	6 46	5 14	9 48	13 43	0 41	8 14	14 5
E	18 Sun. af. Tri.	6 48	5 12	10 10	10 22	1 47	8 59	15 1
20		6 50	5 10	10 32	6 38	2 51	9 42	15 11
21		6 52	5 8	10 53	2 39	3 55	10 24	15 20
22		6 54	5 6	11 14	1 s 25	4 59	11 6	15 28
23		6 56	5 4	11 35	5 27	☽ ſets	11 48	15 36
24		6 58	5 2	11 56	9 18	5 a 46	0 a 31	15 43
25	K. Geo. 3. acc.	Criſpin	5 0	12 17	12 48	6 11	1 15	15 50
E	19 S. a. Trin. K. [Geo. 3. pro.	7 2	4 58	12 38	15 49	6 39	2 1	15 55
27		7 3	4 58	12 58	18 10	7 16	2 49	16 0
28	St. Sim. & Jude	7 5	4 57	13 18	19 42	7 57	3 39	16 5
29		7 7	4 5	13 38	20 18	8 47	4 31	16 8
30		7 9	4 51	13 58	19 52	9 46	5 24	16 11
31		7 11	4 40	14 17	18 20	10 53	6 18	16 13

M D	Day decreaſ.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ⊖	Helioc. long. ♀	Helioc. long. ☿	♄ riſes
1	5 0	11 34	24 ♉ 23	7 ♑ 22	3 ♒ 0	8 ♈ 29	13 ♒ 40	23 ♎ 28	7 a 40
7	5 24	11 10	24 36	7 52	6 44	14 25	23 9	12 ♏ 8	7 17
13	5 48	10 46	24 50	8 22	10 29	20 21	2 ♓ 39	29 17	6 54
19	6 10	10 24	25 3	8 52	14 15	26 19	12 9	15 ♐ 49	6 30
25	6 36	9 58	25 16	9 22	18 3	2 ♉ 18	21 41	2 ♑ 29	6 6

October.

M D	Daylig. begins	Day lig. ends	Durat. twilig.	Pl. ☽'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	4 18	7 42	1 56	14♌47	2 s 17	0 n 2	1 s 52	2 s 32	0 n 48
7	4 31	7 29	1 55	14 28	2 18	0 2	1 51	2 55	0 9
13	4 43	7 17	1 54	14 9	2 18	0 1	1 49	3 15	0 s 33
19	4 55	7 5	1 54	13 50	2 19	0 0	1 47	3 33	1 13
25	5 4	6 56	1 55	13 31	2 19	0 0	1 45	3 46	1 49

M D	☉'s longitude	☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♎ 8 29 17	29♐20	3 n 45	29♉17	26♐32	20♐10	24♏9	12♎57
2	9 28 25	12♑11	2 52	29 15	26 40	20 52	25 14	14 40
3	10 27 35	25 25	1 49	29 12	26 47	21 34	26 19	16 21
4	11 26 46	9♒4	0 38	29 10	26 55	22 16	27 24	18 0
E	12 25 59	23 11	0 s 37	29 7	27 2	22 58	28 29	19 39
6	13 25 14	7♓45	1 53	29 5	27 10	23 40	29 34	21 17
7	14 24 31	22 43	3 2	29 2	27 18	24 23	0♐39	22 55
8	15 23 50	7♈58	4 0	28 59	27 26	25 6	1 43	24 32
9	16 23 11	23 16	4 41	28 56	27 35	25 49	2 46	26 8
10	17 22 34	8♉31	5 1	28 53	27 43	26 32	3 50	27 44
11	18 21 59	23 29	5 1	28 50	27 52	27 15	4 53	29 19
E	19 21 26	8♊4	4 41	28 47	28 0	27 58	5 57	0♏53
13	20 20 56	22 10	4 4	28 44	28 9	28 41	7 0	2 27
14	21 20 28	5♋46	3 14	28 41	28 18	29 24	8 3	4 0
15	22 20 3	18 53	2 16	28 37	28 27	0♑8	9 5	5 32
16	23 19 40	1♌36	1 12	28 34	28 36	0 51	10 8	7 4
17	24 19 19	13 59	0 7	28 30	28 46	1 35	11 10	8 35
18	25 19 0	26 7	0 n 57	28 27	28 55	2 18	12 11	10 5
E	26 18 44	8♍5	1 58	28 23	29 4	3 2	13 12	11 35
20	27 18 30	19 57	2 53	28 19	29 14	3 46	14 13	13 4
21	28 18 19	1♎47	3 40	28 15	29 24	4 30	15 13	14 33
22	29 18 10	13 36	4 17	28 11	29 34	5 14	16 14	16 1
23	♏ 0 18 3	25 29	4 44	28 7	29 44	5 58	17 14	17 28
24	1 17 58	7♏25	4 58	28 3	29 54	6 42	18 13	18 55
25	2 17 5	19 26	4 59	27 59	0♑4	7 26	19 12	20 21
E	3 17 53	1♐33	4 46	27 55	0 15	8 10	20 11	21 46
27	4 17 53	13 48	4 21	27 51	0 25	8 55	21 9	23 11
28	5 17 55	26 12	3 42	27 47	0 35	9 39	22 7	24 35
29	6 17 59	8♑48	2 52	77 42	0 46	10 23	23 4	25 58
30	7 18 4	21 39	1 53	27 38	0 56	11 8	24 1	27 20
31	8 18 11	4♒48	0 46	27 34	1 7	11 52	24 57	28 41

M D	♃ ſets	♂ ſets	♀ ſets	☿ ſets	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	9 a 5	8 a 26	6 a 58	5 a 57	17 n 47	23 s 23	24 s 57	21 s 18	4 s 22
7	8 46	8 22	6 53	5 49	17 43	23 25	25 11	23 10	8 47
13	8 28	8 18	6 48	5 41	17 39	23 26	25 16	24 43	12 51
19	8 10	8 15	6 43	5 33	17 34	23 27	25 12	25 56	16 29
25	7 52	8 13	6 39	5 26	17 28	23 28	25 0	26 47	19 37

The LUNATIONS.

Full Moon the 7th day, at 55 minutes paſt 9 morning.
Laſt quarter the 14th day, at 28 minutes paſt 11 morning.
New Moon the 22d day, at 19 minutes paſt 4 afternoon.
Firſt quarter the 30th day, at 59 minutes paſt 4 morning.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☽'s declin.	☽ riſes & ſets	☽ South	Clock aft. ☉
1	All Saints	7 13	4 47	14 s 37	15 s 46	morn	7 a 12	16' 14"
E	20S. a. T. Pr. Ed	All Sou	4 46	14 56	12 13	0 6	8 5	16 15
3	Prs. Sophia b. [b.	7 16	4 44	15 14	7 51	1 21	8 58	16 14
4	K. William lan	7 18	4 42	15 33	2 56	2 41	9 52	16 13
5	Powder Plot	7 20	4 40	15 51	2 n 15	4 6	10 47	16 11
6	Leonard. Ter. b.	7 21	4 39	16 9	7 22	5 30	11 43	16 9
7		7 23	4 37	16 27	12 1	☽ riſes	morn	16 5
8	Prs. Au. Sop. b.	7 25	4 35	16 44	15 51	5 a 54	0 40	16 1
E	21 Sun. af. Tri.	7 27	4 33	17 2	18 36	6 36	1 38	15 55
10	[Ld. May. day	7 28	4 32	17 18	20 6	7 28	2 36	15 49
11	St. Martin	7 30	4 30	17 35	20 21	8 24	3 34	15 42
12	Cam. T. div. m.	7 32	4 28	17 51	19 26	9 25	4 29	15 34
13	Britius	7 33	4 27	18 7	17 32	10 30	5 21	15 25
14		7 35	4 25	18 23	14 51	11 35	6 10	15 16
15	Machutus	7 36	4 24	18 38	11 31	morn	6 56	15 5
E	22 Sun. a. Tri.	7 38	4 22	18 53	7 53	0 40	7 40	14 54
17	Hugh Bp. Linc.	7 39	4 21	19 8	3 55	1 44	8 22	14 42
18		7 41	4 19	19 22	0 s 11	2 48	9 4	14 29
19		7 42	4 18	19 36	4 17	3 51	9 45	14 15
20	Edmund K. & M	7 44	4 16	19 50	8 15	4 55	10 27	14 0
21		7 45	4 15	20 3	11 56	6 1	11 11	13 45
22	Cecilia. O. Mart.	7 46	4 14	20 16	15 10	☽ ſets	11 57	13 28
E	23 Sun. a. Trin.	Cleme.	4 12	20 29	17 46	5 a 33	0 a 44	13 11
24		7 49	4 11	20 41	19 35	5 52	1 33	12 53
25	Duke of Glou. b.	Cather.	4 10	20 53	20 27	6 39	2 24	12 35
26		7 52	4 8	21 4	20 17	7 35	3 17	12 15
27		7 53	4 7	21 15	19 2	8 39	4 10	11 55
28	Mic. Term end.	7 54	4 6	21 25	16 44	9 48	5 2	11 34
29		7 55	4 5	21 36	13 28	11 3	5 54	11 13
E	Advent Sun. St. [Andrew	7 56	4 4	21 45	9 25	morn	6 45	10 51

M D	Day decreaſ.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ⊖	Helioc. long. ♀	Helioc. long. ☿	♄ riſes
1	7 5	9 34	25 ♉ 32	9 ♑ 57	22 ♒ 28	9 ♉ 18	2 ♈ 48	23 ♑ 6	5 a 38
7	7 2	9 12	25 45	10 27	26 16	15 20	12 21	12 ♒ 48	5 13
13	7 40	8 54	25 58	10 57	0 ♓ 5	21 22	21 56	5 ♓ 32	4 47
19	7 58	8 36	26 11	11 27	3 54	27 26	1 ♉ 31	2 ♈ 36	4 21
25	8 14	8 20	26 25	11 57	7 42	3 ♊ 30	11 7	4 ♉ 55	3 54

M D	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☽'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	5 17	6 43	1 56	13♌ 8	2 s 20	0 s 1	1 s 42	3 s 56	2 s 23
7	5 26	6 34	1 58	12 49	2 20	0 2	1 39	3 58	2 39
13	5 33	6 28	2 0	12 30	2 20	0 2	1 35	3 52	2 36
19	5 41	6 19	2 2	12 11	2 19	0 3	1 32	3 38	2 0
25	5 47	6 13	2 4	11 52	2 10	0 3	1 28	3 14	0 36

M D	☉'s longitude	☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♏ 9 18 19	18♒18	0 s 25	27♉29	1♑18	12♑37	25♐52	0♐ 1
E	10 18 29	2♓12	1 37	27 24	1 29	13 22	26 47	1 20
3	11 18 40	16 30	2 45	27 20	1 40	14 7	27 41	2 37
4	12 18 53	1♈12	3 43	27 15	1 52	14 52	28 35	3 53
5	13 19 7	16 12	4 28	27 11	2 3	15 37	29 29	5 8
6	14 19 23	1♉23	4 54	27 6	2 14	16 22	0♑22	6 21
7	15 19 41	16 33	4 59	27 1	2 26	17 7	1 15	7 35
8	16 20 1	1♊33	4 44	26 57	2 37	17 52	2 7	8 43
E	17 20 22	16 13	4 10	26 52	2 49	18 38	2 59	9 50
10	18 20 45	0♋27	3 22	26 47	3 0	19 23	3 50	10 53
11	19 21 10	14 10	2 23	26 42	3 12	20 8	4 39	11 53
12	20 21 37	27 24	1 18	26 37	3 24	20 54	5 26	12 51
13	21 22 6	10♌12	0 11	26 32	3 36	21 39	6 12	13 46
14	22 22 37	22 38	0 n 55	26 27	3 48	22 24	6 58	14 36
15	23 23 10	4♍47	1 56	26 22	4 0	23 10	7 43	15 20
E	24 23 45	16 44	2 52	26 17	4 12	23 55	8 28	15 59
17	25 24 21	28 35	3 39	26 12	4 25	24 41	9 12	16 32
18	26 24 59	10♎24	4 17	26 7	4 37	25 26	9 55	16 58
19	27 25 39	22 15	4 44	26 2	4 49	26 12	10 38	17 16
20	28 26 21	4♏11	4 58	25 57	5 2	26 58	11 20	17 R 26
21	29 27 4	16 15	5 0	25 52	5 14	27 43	12 0	17 26
22	♐ 0 27 49	28 26	4 48	25 47	5 27	28 29	12 38	17 17
E	1 28 35	10♐46	4 22	25 42	5 39	29 15	13 14	16 57
24	2 29 22	23 16	3 43	25 37	5 52	0♒ 1	13 49	16 26
25	3 30 11	5♑56	2 53	25 33	6 5	0 47	14 23	15 45
26	4 31 1	18 46	1 3	25 28	6 18	1 33	14 56	14 53
27	5 31 52	1♒47	0 46	25 23	6 31	2 19	15 28	13 51
28	6 32 44	15 2	0 s 24	25 18	6 44	3 5	15 58	12 40
29	7 33 37	28 33	1 35	25 13	6 57	3 51	16 26	11 23
E	8 34 30	12♓20	2 41	25 8	7 10	4 37	16 52	10 1

M D	♃ ſets	♂ ſets	♀ ſets	☿ ſets	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	7 a 29	8 a 12	6 a 37	5 a 19	17 n 21	23 s 29	24 s 33	27 s 20	22 s 30
7	7 10	8 11	6 36	5 16	17 15	23 28	24 0	27 25	24 13
13	6 50	8 11	6 36	5 13	17 8	23 27	23 18	27 11	25 4
19	6 31	8 11	6 35	4 58	17 2	23 25	22 26	26 40	24 51
25	6 11	8 11	6 32	4 44	16 55	23 23	21 26	25 54	23 17

December hath xxxi Days. White.

The Lunations.

Full Moon the 6th day, at 44 minutes paſt 8 night.
Laſt quarter the 14th day, at 19 minutes paſt 7 morning.
New Moon the 22d day, at 4 minutes paſt 9 morning.
Firſt quarter the 29th day, at 25 minutes paſt 1 afternoon.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☽'s declin.	☽ riſes & ſets	☽ South	Clock aft. ☉
1		7 57	4 3	21 s 55	4 s 47	0 m 18	7 a 36	10′ 28″
2		7 58	4 2	22 4	0 n 13	1 36	8 28	10 5
3		7 59	4 1	22 12	5 16	2 57	9 21	9 41
4		8 0	4 0	22 20	10 4	4 18	10 15	9 16
5		8 1	3 59	22 28	14 16	5 39	11 12	8 51
6	Nicholas	8 2	3 58	22 35	17 34	☽ riſes	morn	8 26
[illegible]	2 Sun. in Adve	8 3	3 57	22 42	19 42	5 a 2	0 10	8 0
8	Concept. V. M.	8 3	3 57	22 48	20 33	5 56	1 8	7 33
9		8 4	3 56	22 54	20 8	6 57	2 5	7 6
10		8 4	3 56	22 59	18 35	8 2	3 0	6 39
11		8 5	3 55	23 4	16 7	9 8	3 52	6 11
12		8 6	3 54	23 9	12 58	10 15	4 40	5 43
13	Lucy	8 6	3 54	23 13	9 19	11 20	5 25	5 14
[illegible]	3 Su. in Advent	8 6	3 54	23 16	5 22	morn	6 8	4 45
15		8 7	3 53	23 19	1 16	0 24	6 50	4 16
16	O Sapientia	Ce. T. e.	3 53	23 22	2 s 52	1 28	7 31	3 47
17	Ember Week	Ox. T. e	3 53	23 24	6 55	2 31	8 12	3 17
18		8 8	3 52	23 26	10 43	3 35	8 54	2 47
19		8 8	3 52	23 27	14 9	4 40	9 39	2 17
20		8 8	3 52	23 28	17 1	5 45	10 26	1 47
[illegible]	4 S. in Adv. St. [Thomas	Shor. d.	3 52	23 28	19 9	6 49	11 15	1 17
22		8 8	3 52	23 28	20 22	☽ ſets	0 a 6	0 47
23		8 8	3 52	23 27	20 32	5 a 14	0 59	0 17
24		8 8	3 52	23 26	19 34	6 17	1 53	0 be 14
25	Chriſtmas Day	8 7	3 53	23 24	17 29	7 26	2 47	0 44
26	St. Stephen	8 7	3 53	23 22	14 26	8 40	3 40	1 14
27	St. John	8 7	3 53	23 20	10 32	9 56	4 31	1 43
[illegible]	1 S. a. Ch. Inno.	8 6	3 54	23 16	6 2	11 12	5 21	2 13
29		8 6	3 54	23 13	1 11	morn	6 11	2 42
30		8 6	3 54	23 9	3 n 46	0 29	7 2	3 11
31	Silveſter	8 5	3 55	23 5	8 33	1 47	7 54	3 40

M D	Day decreaſ.	Lengt of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ⊖	Helioc. long. ♀	Helioc. long. ☿	♄ ſets
1	8 28	8 6	26 ♉ 38	12 ♑ 28	11 ♓ 30	9 ♊ 35	20 ♉ 44	11 ♊ 40	6 m 35
7	8 40	7 54	26 51	12 58	15 18	15 41	0 ♊ 23	19 ♋ 1	6 8
13	8 46	7 48	27 4	13 28	19 6	21 47	10 2	22 ♌ 27	5 39
19	8 50	7 44	27 18	13 58	22 52	27 54	19 43	20 ♍ 17	5 10
25	0 inc 2	7 46	27 31	14 28	26 38	4 ♋ 1	29 25	13 ♎ 22	4 40

M D	Day lig. begins	Day lig. ends	Durat. twilig.	Pl, ☽'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	5 54	6 6	2 5	11 ♌ 33	2 s 18	0 s 4	1 s 24	2 s 37	1 n 23
7	5 57	6 3	2 6	11 14	2 17	0 5	1 20	1 46	2 40
13	5 59	6 1	2 7	10 55	2 16	0 5	1 16	0 39	2 45
19	6 1	5 59	2 7	10 36	2 15	0 6	1 11	0 n 43	2 10
25	6 1	5 59	2 7	10 17	2 13	0 6	1 7	2 16	1 23

M D	☉'s longitude	☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♐ 9 35 24	26 ♓ 26	3 s 40	25 ♉ 4	7 ♑ 23	5 ♒ 23	17 ♑ 17	8 ♐ 39
2	10 36 19	10 ♈ 48	4 25	24 59	7 36	6 9	17 40	7 19
3	11 37 15	25 26	4 55	24 55	7 49	6 55	17 51	6 1
4	12 38 12	10 ♉ 12	5 5	24 50	8 2	7 41	18 20	4 48
5	13 39 9	25 1	4 54	24 56	8 15	8 27	18 37	3 45
6	14 40 6	9 ♊ 44	4 25	24 51	8 28	9 13	18 52	2 53
E	15 41 5	24 13	3 38	24 37	8 42	10 0	19 6	2 11
8	16 42 5	8 ♋ 20	2 40	24 33	8 55	10 46	19 15	1 40
9	17 43 5	22 4	1 33	24 28	9 9	11 32	19 22	1 20
10	18 44 7	5 ♌ 21	0 23	24 24	9 22	12 19	19 28	1 12
11	19 45 10	18 13	0 n 47	24 20	9 36	13 5	19 R 33	1 D 12
12	20 46 14	0 ♍ 43	1 52	24 16	9 49	13 51	19 35	1 23
13	21 47 19	12 56	2 50	24 12	10 3	14 38	19 36	1 45
E	22 48 25	24 57	3 40	24 8	10 16	15 24	19 32	2 14
15	23 49 32	6 ♎ 50	4 20	24 4	10 30	16 10	19 25	2 49
16	24 50 39	18 40	4 49	24 0	10 43	16 57	19 14	3 30
17	25 51 47	0 ♏ 34	5 5	23 56	10 57	17 43	19 2	4 17
18	26 52 56	12 33	5 8	23 52	11 11	18 29	18 50	5 9
19	27 54 6	24 42	4 58	23 49	11 25	19 16	18 39	6 7
20	28 55 17	7 ♐ 3	4 33	23 45	11 38	20 2	18 21	7 8
E	29 56 29	19 37	3 55	23 42	11 52	20 49	18 1	8 12
22	♑ 0 57 41	2 ♑ 24	3 5	23 39	12 6	21 35	17 38	9 19
23	1 58 53	15 25	2 4	23 35	12 20	22 22	17 13	10 29
24	3 0 5	28 37	0 55	23 32	12 34	23 8	16 46	11 42
25	4 1 17	12 ♒ 2	0 s 18	23 29	12 48	23 55	16 18	12 56
26	5 2 29	25 36	1 31	23 26	13 2	24 41	15 47	14 12
27	6 3 41	9 ♓ 21	2 40	23 23	13 16	25 28	15 14	15 30
E	7 4 53	23 16	3 40	23 20	13 30	26 14	14 40	16 49
29	8 6 4	7 ♈ 19	4 27	23 17	13 44	27 1	14 5	18 9
30	9 7 15	21 31	4 59	23 14	13 58	27 47	13 29	19 30
31	10 8 26	5 ♉ 48	5 13	23 11	14 12	28 34	12 54	20 53

M D	♃ ſets	♂ ſets	♀ ſets	☿ riſes	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿s' declin.
1	5 a 52	8 a 13	6 a 24	7 m 45	16 n 49	23 s 19	20 s 18	24 s 56	20 s 24
7	5 32	8 13	6 16	6 42	16 43	23 15	19 2	23 51	18 0
13	5 12	8 14	5 58	6 10	16 38	23 10	17 40	22 40	17 50
19	4 52	8 14	5 33	6 9	16 34	23 4	16 11	21 27	19 13
25	4 32	8 15	5 4	6 20	16 31	22 57	14 36	20 13	21 0

The Georgian or New Planet. White.

Dates		Heliocentric				Geocentric				Declin.		Southi.	
Months	Days	longitude		latitude		longitude		latitude					
		°	′	°	′	°	′	°	′	°	′	h	m
January	1	25 ♌	55	0 n	44	28 ♌	10	0 n	46	12 n	51	15	10
	11	26	3	0	44	27	52	0	46	12	57	14	25
	21	26	10	0	44	27	31	0	47	13	4	13	41
February	1	26	19	0	44	27	4	0	47	13	14	12	54
	11	26	27	0	44	26	38	0	47	13	23	12	13
	21	26	35	0	44	26	12	0	47	13	32	11	33
March	1	26	41	0	44	25	51	0	47	13	39	11	1
	11	26	48	0	44	25	27	0	47	13	47	10	23
	21	26	56	0	44	25	6	0	46	13	54	9	45
April	1	27	5	0	44	24	47	0	46	14	0	9	4
	11	27	13	0	44	24	34	0	46	14	4	8	27
	21	27	20	0	45	24	26	0	46	14	6	7	49
May	1	27	28	0	45	24 D	23	0	45	14	7	7	11
	11	27	36	0	45	24	26	0	45	14	6	6	33
	21	27	44	0	45	24	34	0	44	14	3	5	54
June	1	27	52	0	45	24	49	0	44	13	57	5	11
	11	28	0	0	45	25	7	0	44	13	51	4	31
	21	28	8	0	45	25	30	0	43	13	43	3	51
July	1	28	15	0	45	25	57	0	43	13	34	3	11
	11	28	23	0	45	26	27	0	43	13	23	2	32
	21	28	31	0	45	27	1	0	43	13	11	1	54
Auguſt	1	28	40	0	45	27	39	0	43	12	58	1	13
	11	28	47	0	45	28	16	0	43	12	45	0	37
	21	28	55	0	45	28	54	0	43	12	32	0	2
September	1	29	4	0	45	29	35	0	43	12	18	23	21
	11	29	11	0	45	0	12	0	43	12	5	22	48
	21	29	19	0	45	0	48	0	43	11	52	22	14
October	1	29	27	0	45	1	21	0	43	11	41	21	40
	11	29	35	0	45	1	51	0	43	11	30	21	5
	21	29	43	0	45	2	18	0	44	11	21	20	30
November	1	29	51	0	45	2	43	0	44	11	12	19	49
	11	29	59	0	45	3	0	0	45	11	6	19	10
	21	0	7	0	45	3	12	0	45	11	2	18	30
December	1	0	14	0	45	3	19	0	45	11	0	17	48
	11	0	22	0	45	3 R	20	0	46	11	0	17	4
	21	0	30	0	45	3	16	0	46	11	2	16	19
	31	0	33	0	45	3	6	0	47	11	6	15	34

Time of High-Water at LONDON in the morning and afternoon of every day in the year.

Mo. Days	JANUARY morn. h	m	aftern. h	m	FEBRUARY morn. h	m	aftern. h	m	MARCH morn. h	m	aftern. h	m	APRIL morn. h	m	aftern. h	m	Mo. Days
1	1	54	1	54	2	49	3	9	1	33	2	3	3	0	3	19	1
2	2	23	2	50	3	29	3	47	2	31	2	54	3	36	3	54	2
3	3	12	3	29	4	5	4	22	3	14	3	30	4	13	4	32	3
4	3	46	4	4	4	42	5	3	4	48	4	5	4	54	5	14	4
5	4	24	4	46	5	24	5	46	4	27	4	46	5	39	6	4	5
6	5	6	5	27	6	12	6	40	5	7	5	27	6	3[illegible]	7	0	6
7	5	51	6	17	7	8	7	37	5	53	6	19	7	29	7	58	7
8	6	44	7	11	8	9	8	41	6	47	7	15	8	30	9	1	8
9	7	40	8	10	9	14	9	48	7	46	8	18	9	33	10	5	9
10	8	42	9	16	10	22	10	56	8	50	9	25	10	33	11	2	10
11	9	40	10	29	11	28	11	59	9	58	10	31	11	30	11	58	11
12	10	56	11	30			0	27	10	2	11	32			0	22	12
13	0	1			0	54	1	19	11	59			0	45	1	7	13
14	0	30	0	58	1	42	2	6	0	26	0	52	1	29	1	51	14
15	1	24	1	50	2	28	2	46	1	15	1	38	2	14	2	33	15
16	2	15	2	37	3	2	3	20	1	59	2	20	2	51	3	7	16
17	2	56	3	12	3	30	3	43	2	40	2	55	3	21	3	37	17
18	3	27	3	42	3	56	4	12	3	9	3	23	3	51	4	8	18
19	3	55	4	10	4	26	4	38	3	38	3	52	4	25	4	44	19
20	4	25	4	41	4	50	5	16	4	5	4	22	5	5	5	27	20
21	4	58	5	14	5	30	5	57	4	40	4	57	5	50	6	18	21
22	5	30	5	48	6	20	6	35	5	15	5	36	6	47	7	18	22
23	6	10	6	33	7	12	7	42	6	0	6	28	7	49	8	24	23
24	6	56	7	21	8	14	8	50	6	56	7	27	9	0	9	36	24
25	7	48	8	17	9	27	10	4	8	0	8	35	10	14	10	50	25
26	8	49	9	24	10	41		19	9	12	9	50	11	25	11	57	26
27	10	0	10	35	11	57			10	28	11	5			0	28	27
28	11	9	11	40	0	33	1	2	11	42			0	57	1	26	28
29			0	21					0	7	0	46	1	54	2	22	29
30	0	53	1	24					1	16	1	45	2	44	3	6	30
31	1	55	2	25					2	13	2	40					31

This Table may ſerve the following Places, by adding

	h	m
For Tinmouth Haven, Hartle-pool, *and* Amſterdam	0	30
Breſt — — — — — — — —	1	0
Scilly — — — — — — — —	1	45
Mount's Bay — — — — — — —	1	55
Bridlington Pier *and* Humber — — —	2	0

Time of High-Water at LONDON in the morning and afternoon of every day in the year.

M. Days	MAY morn. h	MAY morn. m	MAY aftern. h	MAY aftern. m	JUNE morn. h	JUNE morn. m	JUNE aftern. h	JUNE aftern. m	JULY morn. h	JULY morn. m	JULY aftern. h	JULY aftern. m	AUGUST morn h	AUGUST morn m	AUGUST aftern. h	AUGUST aftern. m	Mo. Days
1	3	25	3	42	4	21	4	40	4	30	4	48	5	7	5	23	1
2	4	0	4	18	5	0	5	18	5	5	5	22	5	42	6	2	2
3	4	38	5	1	5	40	6	2	5	42	6	2	6	24	6	47	3
4	5	23	5	44	6	25	6	49	6	24	6	46	7	12	7	37	4
5	6	10	6	36	7	13	7	37	7	9	7	32	8	6	8	36	5
6	7	2	7	28	8	3	8	30	7	58	8	25	9	10	9	44	6
7	7	56	8	25	8	57	9	25	8	53	9	22	10	18	10	53	7
8	8	54	9	24	9	53	10	21	9	53	10	25	11	28			8
9	9	52	10	21	10	50	11	18	10	57	11	30	0	4	0	36	9
10	10	48	11	15	11	46					0	1	1	7	1	38	10
11	11	42			0	14	0	40	0	31	1	1	2	8	2	33	11
12	0	8	0	32	1	6	1	33	1	29	1	58	2	57	3	15	12
13	0	55	1	19	1	59	2	24	2	27	2	50	3	33	3	50	13
14	1	41	2	5	2	48	3	8	3	9	3	28	4	7	4	28	14
15	2	20	2	48	3	25	3	43	3	47	4	5	4	48	5	10	15
16	3	6	3	23	4	0	4	20	4	23	4	44	5	30	5	56	16
17	3	39	3	56	4	40	5	1	5	4	5	26	6	22	6	50	17
18	4	12	4	33	5	22	5	46	5	47	6	14	7	18	7	51	18
19	4	55	5	17	6	12	6	40	6	41	7	9	8	25	9	0	19
20	5	39	6	7	7	7	7	37	7	38	8	10	9	36	10	11	20
21	6	34	7	3	8	8	8	41	8	42	9	17	10	46	11	19	21
22	7	33	8	5	9	15	9	49	9	55	10	29	11	52			22
23	8	38	9	13	10	24	10	58	11	3	11	37	0	22	0	50	23
24	9	49	10	23	11	32					0	11	1	15	1	39	24
25	10	58	11	30	0	4	0	35	0	40	1	8	2	3	2	26	25
26			0	4	1	4	1	32	1	35	2	2	2	44	3	1	26
27	0	34	1	2	2	0	2	28	2	25	2	48	3	15	3	29	27
28	1	30	1	5	2	49	3	8	3	5	3	22	3	43	3	56	28
29	2	24	2	49	3	26	3	44	3	36	3	50	4	10	4	24	29
30	3	9	3	27	3	58	4	12	4	3	4	17	4	40	4	57	30
31	3	44	4	1					4	34	4	51	5	14	5	31	31

Adding	h	m
For Fowey, Loo *and* Plymouth	3	10
Dartmouth, Harborough *and* Hull	3	30
Torbay *and* Tinmouth	3	40
Exmouth, Topſham *and* Lime	3	50
Weymouth	4	20
Bridgewater *and* Texel	4	40
Portland and Hartflew	5	50

Time of High-Water at LONDON in the morning and afternoon of every day in the year.

Mo. Days	SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER				Mo. Days
	morn.		aftern.		morn.		aftern.		morn.		aftern.		morn.		aftern.		
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	
1	5	53	6	16	6	25	6	51	8	10	8	44	8	42	9	16	1
2	6	36	7	7	7	21	7	51	9	20	9	56	9	50	10	25	2
3	7	37	8	8	8	26	9	2	10	30	11	3	10	59	11	33	3
4	8	42	9	18	9	40	10	17	11	37					0	5	4
5	9	55	10	33	10	53	11	30	0	11	0	41	0	36	1	6	5
6	11	10	11	46			0	3	1	10	1	39	1	36	2	5	6
7			0	19	0	35	1	5	2	8	2	33	2	34	2	56	7
8	0	52	1	21	1	34	2	3	2	57	3	16	3	16	3	35	8
9	1	50	2	17	2	31	2	52	3	35	3	53	3	52	4	11	9
10	2	44	3	4	3	12	3	30	4	11	4	33	4	30	4	55	10
11	3	23	3	41	3	48	4	8	4	56	5	18	5	10	5	30	11
12	3	58	4	18	4	27	4	48	5	41	6	7	5	51	6	14	12
13	4	38	5	0	5	10	5	35	6	33	6	59	6	37	7	0	13
14	5	20	5	45	6	0	6	29	7	26	7	54	7	23	7	49	14
15	6	11	6	40	6	58	7	29	8	23	8	52	8	15	8	42	15
16	7	10	7	42	8	0	8	32	9	21	9	50	9	9	9	37	16
17	8	14	8	48	9	4	9	36	10	18	10	45	10	5	10	32	17
18	9	22	9	56	10	7	10	36	11	11	11	37	10	58	11	27	18
19	10	30	11	2	11	5	11	32			0	3	11	56			19
20	11	33			11	59			0	27	0	50	0	22	0	48	20
21	0	1	0	29	0	22	0	46	1	12	1	35	1	14	1	39	21
22	0	52	1	17	1	13	1	30	1	58	2	22	2	5	2	31	22
23	1	39	2	1	1	52	2	13	2	41	2	59	2	50	3	9	23
24	2	21	2	40	2	32	2	51	3	16	3	32	3	27	3	45	24
25	2	55	3	10	3	6	3	21	3	48	4	3	4	3	4	20	25
26	3	24	3	38	3	36	3	50	4	23	4	43	4	40	5	1	26
27	3	52	4	5	4	5	4	21	5	8	5	24	5	22	5	43	27
28	4	22	4	39	4	40	5	0	5	43	6	13	6	11	6	33	28
29	4	56	5	14	5	22	5	43	6	41	7	9	7	3	7	27	29
30	5	36	5	58	6	9	6	36	7	39	8	9	7	58	8	32	30
31					7	6	7	36					9	6	9	41	31

Subtracting	h	m
For Leigh, Maes, *and* Gouries Gut	0	5
Gravesend, Rochester, *and* Rammekins	1	20
Buoy of the Nore *and* Fluſhing	1	30
Portſmouth, Oſtend, Shoe-Becon, *and* Red-Sand	2	0
Harwich, Dover, Spithead, *and* Calais	3	0
Gunfleet, Haſtings, Shoreham, Orfordneſs, *and* Diepe	4	0
Yarmouth Pier *and* Needle	4	40
St. Helen's *and* Havre-de-Grace	5	30

The Eclipſes of Jupiter's

JANUARY				FEBRUARY				MARCH				APRIL			
Immerſions				Immerſions				Immerſions				Immerſions			
1	12	7	45	2	8	28	6	2	16	2	49	1	18	12	35
3	6	35	17	4	2	56	14	4	10	31	31	3	12	41	29
5	1	2	51	5	21	24	24	6	5	0	14	5	7	10	19
6	19	30	26	7	15	52	38	7	23	28	57	7	1	39	10
8	13	58	3	9	10	20	55	9	17	57	42	8	20	8	1
10	8	25	41	11	4	49	13	11	12	26	29	10	14	36	53
12	2	53	21	12	23	17	33	13	6	55	16	12	9	5	41
13	21	21	4	14	17	45	55	15	1	24	4	14	3	34	33
15	15	48	48	16	12	14	19	16	19	52	54	15	22	3	18
17	10	16	34	18	6	42	46	18	14	21	45	17	16	32	5
19	4	44	22	20	1	11	15	20	8	50	33	19	11	0	54
20	23	12	12	21	19	39	45	22	3	19	27	21	5	29	37
22	17	40	4	23	14	8	19	23	21	48	17	22	23	58	20
24	12	7	59	25	8	36	55	25	16	17	9	24	18	27	5
26	6	35	56	27	3	5	32	27	10	46	1	26	12	55	45
28	1	3	55	28	21	34	11	29	5	14	54	28	7	24	27
29	19	31	57					30	23	43	42	30	1	53	6
31	14	0	1												

MAY				JUNE				JULY				AUGUST			
Immerſions				Immerſions				Emerſions				Emerſions			
1	20	21	42	2	16	53	27	1	2	37	22	1	23	13	5
3	14	50	17	4	11	21	44	2	21	5	45	3	17	42	6
5	9	18	53	6	5	49	59	4	15	34	10	5	12	11	8
7	3	47	27	8	0	18	13	6	10	2	38	7	6	40	12
8	22	16	0	9	18	46	28	8	4	31	5	9	1	9	18
10	16	44	31	11	13	14	42	9	22	59	34	10	19	38	25
12	11	13	2	13	7	42	56	11	17	28	5	12	14	7	34
14	5	41	31	15	2	11	11	13	11	56	39	14	8	36	44
16	0	9	57	16	20	39	26	15	6	25	15	16	3	5	57
17	18	38	24	18	15	7	40	17	0	53	53	17	21	35	11
19	13	6	48	Emerſions				18	19	22	32	19	16	4	27
21	7	35	11	20	11	47	25	20	13	51	13	21	10	33	45
23	2	3	35	22	6	15	43	22	8	19	56	23	5	3	5
24	20	31	57	24	0	44	2	24	2	48	42	24	23	32	26
26	15	0	17	25	19	12	21	25	21	17	31	26	18	1	49
28	9	28	37	27	13	40	40	27	15	46	21	28	12	31	11
30	3	56	54	29	8	9	0	29	10	15	14	30	7	0	34
31	22	25	11					31	4	44	9				

firſt Satellite for the Year 1794.

SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER
Emerſions				Emerſions				Emerſions				
1	1	30	0	1	3	51	9	2	0	36	0	The Eclipſes of Jupiter's Satellites will not be viſible this Month, Jupiter being too near the Sun.
2	19	59	27	2	22	20	36	3	19	4	47	
4	14	28	55	4	16	50	0	5	13	33	32	
6	8	58	23	6	11	19	22	7	8	2	13	
8	3	27	51	8	5	48	43	9	2	30	51	
9	21	57	20	10	0	18	3	10	20	59	25	
11	16	26	51	11	18	47	21	12	15	27	57	
13	10	56	21	13	13	16	38	14	9	56	25	
15	5	25	53	15	7	45	52	16	4	24	50	
16	23	55	22	17	2	15	4	17	22	53	12	
18	18	24	51	18	20	44	13	19	17	21	31	
20	12	54	21	20	15	13	21	21	11	49	47	
22	7	23	51	22	9	42	25	23	6	18	1	
24	1	53	21	24	4	11	28	25	0	46	11	
25	20	22	49	25	22	40	28	26	19	14	20	
27	14	52	18	27	17	9	26	28	13	42	27	
29	9	21	44	29	11	38	19	30	8	10	31	
				31	6	7	12					

The Times of the Eclipſes contained in this Table are adapted to the Meridian of the Royal Obſervatory at Greenwich, and afford an excellent Method to diſcover the Longitude, or Difference of Meridians, between that and any other Place; which I ſhall illuſtrate by an EXAMPLE:

Suppoſe on the 25th Day of September of this Year, the Time of the Emerſion of Jupiter's firſt Satellite be obſerved (by a Teleſcope) in an unknown Meridian, to happen at 22 h. 11 min. 9 ſec.; I find by the Table, that the Time of this Emerſion will happen at the Britiſh Obſervatory, at 20 h. 22 min. 49 ſec. the ſame day: The Difference of the Times is 1 hour 48 min. 20 ſec. which being converted into Degrees and Minutes of the Equator, will make 27 deg. 5 min. the Longitude of the Place of Obſervation, to the Eaſt, becauſe the Time is more than that at the Britiſh Obſervatory.

N. B. Thoſe marked with an Aſteriſk are viſible at Greenwich.

Speculum Phænomenorum

JANUARY

4	☾ in perige
6	☿ elong. max.
9	☌ ☾ ♄ 15h.
10	♄ ſtationary
12	♀ in ☋
14	□ ☉ ♂ 9h.
17	☿ in ☋
19	☉ in ♒ 5h. 53m.
20	☾ in apoge
23	☌ ☾ ♂ 9h.
27	☌ ☾ ♃ 17h.
27	☿ in aphelio
28	□ ☉ ♄ 8h.
29	☌ ☾ ☿ 16h.
30	☌ ☾ ♀ 3h.
31	☉ eclips. viſible

FEBRUARY

1	☾ in perige
5	☌ ☾ ♄ 23h.
14	☍ ☉ ♅ 9h.
14	☾ ecl. viſible
15	♀ in aphelion
16	☾ in apoge
17	☉ in ♓ 20 h 41m.
20	☌ ☾ ♂ 12h.
24	☌ ☾ ♃ 11h.

MARCH

1	☌ ☾ ♀ 2h.
1	☌ ☾ ☿ 23h.
1	☉ ecl. inviſible
1	☾ in perige
5	☌ ☾ ♄ 10h.
9	☿ in ☊
12	☿ in perihelion
15	☾ in apoge
17	♂ ſtationary
18	☌ ☉ ♀ 22h.
19	☿ elong. max.
19	☉ in ♈ 21h. 5m.
20	☌ ☾ ♂ 1h.
22	□ ☉ ♃ 10h.
24	☌ ☾ ♃ ch.
27	☿ ſtationary
29	☌ ☾ ☿ 13h.
30	☾ in perige
31	☌ ☾ ♀ 0h.

APRIL

2	☌ ☾ ♄ 2h.
6	☌ ☉ ☿ 3h.
12	☾ in apoge
15	☿ in ☋
15	☌ ☾ ♂ 22h.
19	☉ in ♉ 9h. 49m.
20	☌ ☾ ♃ 8h.
20	♃ ſtationary
20	☿ ſtationary
23	☍ ☉ ♂ 17h.
25	☿ in aphelio
27	☾ in perige
27	☌ ☾ ☿ 8h.
29	☌ ☾ ♄ 17h.
30	☌ ☾ ♀ 0h.

MAY

1	♅ ſtationary
4	☿ elong. max.
5	☿ in ☊
9	☌ ☉ ♄ 2h.
9	☾ in apoge
12	☌ ☾ ♂ 10h.
14	□ ☉ ♅ 16h.
17	☌ ☾ ♃ 12h.
20	☉ in ♊ 10h. 24m.
22	♂ in ☋
25	☾ in perige
27	☌ ☾ ♄ 9h.
27	☌ ☾ ☿ 8h.
30	☌ ☾ ♀ 0h.

JUNE

4	♂ ſtationary
4	☿ in ☋
6	☾ in apoge
7	♀ in perihelion
8	☌ ☾ ♂ 12h.
8	☿ in perihelion
9	☌ ☉ ☿ 5h.
13	☌ ☾ ♃ 13h.
19	☍ ☉ ♃ 15h.
20	☉ in ♋ 19h. 6m.
20	☾ in perige
23	☌ ☾ ♄ 21h.
28	☌ ☾ ☿ 11h.
29	☌ ☾ ♀ 3h.
29	⊖ in aphelion

ad Annum 1794.

JULY

4	☾ in apoge
6	☌ ☾ ♂ 7h.
10	☌ ☾ ♃ 16h.
13	☿ in ☊
16	☿ elong. max.
16	☾ in perigeo
21	☌ ☾ ♄ 9h.
22	☉ in ♌ 5h. 57m.
22	☿ in aphelion
26	☉ eclipſ. inviſ.
28	☌ ☾ ☿ 9h.
29	☌ ☾ ♀ 9h.
31	☿ ſtationary
31	☾ in apoge

AUGUST

3	☌ ☾ ♂ 16h.
6	☌ ☾ ♃ 22h.
8	□ ☉ ♂ 0h.
10	☾ eclipſ. inviſ.
13	☾ in perige
17	☌ ☾ ♄ 17h.
20	♃ ſtationary
21	□ ☉ ♄ 18h.
21	☌ ☉ ♅ 9h.
22	☉ in ♍ 12h. 19m.
23	☌ ☾ ☿ 16h.
23	☿ ſtationary
25	☉ eclipſ. inviſ.
25	♀ in ☊
28	☌ ☾ ♀ 15h.
28	☾ in apoge
31	☿ elong. max.

SEPTEMBER

1	☌ ☾ ♂ 8h.
3	☌ ☾ ♃ 7h.
4	☿ in perihelio
10	☾ in perigeo
10	♄ ſtationary.
14	☌ ☾ ♄ ½h.
17	□ ☉ ♃ 10h.
22	☉ in ♎ 8h. 48m.
23	☌ ☾ ☿ 10h.
24	☾ in apoge
25	☌ ☉ ☿ 3h.
27	☌ ☾ ♀ 17h.
30	☌ ☾ ♃ 16h.
30	☌ ☾ ♂ 5h.

OCTOBER

8	☾ in perigeo
8	☿ in ☊
11	☌ ☾ ♄ 9h.
18	☿ in aphelion
21	☾ in apoge
22	☉ in ♏ 16h. 46m.
23	♀ elong. max.
25	☌ ☾ ☿ 2h.
27	☌ ☾ ♀ 13h.
28	☌ ☾ ♃ 8h.
29	☌ ☾ ♂ 17h.

NOVEMBER

5	☾ in perige
7	☌ ☾ ♄ 16h.
17	☍ ☉ ♃ 17h.
17	♂ in perihelio
18	☾ in apoge
20	☿ ſtationary
21	☉ in ♐ 13h. 1m.
23	☌ ☾ ☿ 12h.
24	□ ☉ ♅ 18h.
2	☌ ☾ ♃ 0h.
25	☌ ☾ ♀ 15h.
27	☌ ☾ ♂ 1h.
30	☌ ☉ ☿ 14h.

DECEMBER

1	☿ in perihelio
4	☾ in perige
5	☌ ☾ ♄ 0h.
11	♀ ſtationary
11	☿ ſtationary
16	☾ in apogeo
16	♀ in ☊
20	☌ ☾ ☿ 0h.
20	☿ elong. max.
21	☉ in ♑ 1h. 23m.
22	☌ ☾ ♃ 18h.
23	☌ ☾ ♀ 3h.
25	☌ ☾ ♂ 19h.
29	⊖ in perihelio
31	☾ in perige

A Table of the Sun's ſemi-diurnal Arches, or Times

The Sun's Declination North.

Degr.	Lat. 49		Lat. 50		Lat. 51		Lat. 52		Lat. 53		Lat. 54	
	h	m	h	m	h	m	h	m	h	m	h	m
0	6	4	6	4	6	4	6	4	6	4	6	4
1	6	8	6	8	6	8	6	9	6	9	6	9
2	6	12	6	13	6	13	6	14	6	14	6	15
3	6	17	6	18	6	18	6	19	6	19	6	29
4	6	22	6	22	6	22	6	24	6	25	6	25
5	6	26	6	27	6	27	6	29	6	30	6	31
6	6	31	6	32	6	33	6	34	6	36	6	37
7	6	36	6	37	6	38	6	40	6	41	6	43
8	6	41	6	42	6	43	6	45	6	47	6	48
9	6	45	6	47	6	48	6	50	6	52	6	54
10	6	50	6	52	6	54	6	56	6	58	7	0
11	6	55	6	57	6	59	7	1	7	3	7	6
12	7	0	7	2	7	4	7	7	7	9	7	12
13	7	5	7	7	7	10	7	12	7	15	7	18
14	7	10	7	13	7	15	7	18	7	21	7	24
15	7	15	7	18	7	21	7	24	7	27	7	31
16	7	21	7	24	7	27	7	30	7	33	7	37
17	7	26	7	29	7	33	7	36	7	40	7	44
18	7	31	7	35	7	38	7	42	7	46	7	51
19	7	37	7	41	7	45	7	49	7	53	7	58
20	7	43	7	47	7	51	7	55	8	0	8	5
21	7	49	7	53	7	57	8	2	8	7	8	12
22	7	55	7	59	8	4	8	9	8	14	8	20
23	8	1	8	6	8	11	8	16	8	22	8	28
24	8	7	8	12	8	18	8	24	8	30	8	36

By theſe Tables the Times of the Sun's Riſing and Setting may be found, in any Part of the Kingdom of *Great-Britain* or *Ireland*, after the following Manner: Where the Latitude of the Place is known, take the Sun's Declination out of the Table, on the Noon of the Day you deſire to know the Time of his Riſing and Setting; and with it, according as it is either North or South, enter theſe Tables in the Left-of his viſible half Duration above the Horizon.

The Sun's Declination South.

Degr.	Lat. 49		Lat. 50		Lat. 51		Lat. 52		Lat. 53		Lat. 54	
	h	m	h	m	h	m	h	m	h	m	h	m
0	6	4	6	4	6	4	6	4	6	4	6	4
1	5	59	5	59	5	58	5	58	5	58	5	58
2	5	54	5	54	5	53	5	53	5	53	5	53
3	5	49	5	49	5	49	5	48	5	48	5	47
4	5	45	5	44	5	44	5	43	5	42	5	42
5	5	40	5	39	5	39	5	38	5	37	5	36
6	5	35	5	35	5	34	5	33	5	31	5	30
7	5	31	5	30	5	29	5	27	5	26	5	25
8	5	26	5	25	5	23	5	22	5	21	5	19
9	5	21	5	20	5	18	5	17	5	16	5	13
10	5	17	5	15	5	13	5	11	5	10	5	8
11	5	12	5	10	5	8	5	6	5	4	5	2
12	5	7	5	5	5	3	5	0	4	58	4	56
13	5	2	5	0	4	57	4	55	4	52	4	50
14	4	57	4	54	4	52	4	49	4	47	4	44
15	4	52	4	49	4	46	4	44	4	41	4	37
16	4	46	4	45	4	41	4	38	4	34	4	31
17	4	41	4	38	4	35	4	32	4	28	4	23
18	4	36	4	33	4	29	4	26	4	22	4	18
19	4	30	4	27	4	23	4	19	4	15	4	11
20	4	25	4	21	4	17	4	13	4	9	4	4
21	4	19	4	15	4	11	4	6	4	2	3	57
22	4	13	4	9	4	4	4	0	3	55	3	50
23	4	7	4	3	3	58	3	53	3	47	3	42
24	4	1	3	56	3	51	3	46	3	40	3	34

Left-hand Column, under the Word Degrees; then look for the Latitude of the Place in the Top of the Table; and in that Column, againſt the Sun's Declination, will be found the Time of his viſible half Duration above the Horizon, or Time of his Setting, correct by Refraction; then ſubtract the Time of his Setting from 12 Hours, the Remainder will be the Time of his Riſing; double the Time of his Setting, the

A Table of the Sun's ſemi-diurnal Arches, or Times

The Sun's Declination North.

Degr.	Lat. 55		Lat. 56		Lat. 57		Lat. 58		Lat. 59		Lat. 60	
	h	m	h	m	h	m	h	m	h	m	h	m
0	6	4	6	4	6	4	6	4	6	4	6	4
1	6	9	6	10	6	10	6	10	6	11	6	11
2	6	15	6	16	6	16	6	17	6	17	6	18
3	6	21	6	22	6	22	6	23	6	24	6	25
4	6	27	6	28	6	29	6	30	6	31	6	32
5	6	32	6	34	6	35	6	36	6	38	6	39
6	6	38	6	40	6	41	6	43	6	44	6	46
7	6	44	6	46	6	48	6	49	6	51	6	53
8	6	50	6	52	6	54	6	56	6	58	7	1
9	6	56	6	58	7	1	7	3	7	5	7	8
10	7	2	7	5	7	7	7	10	7	13	7	16
11	7	8	7	10	7	14	7	17	7	20	7	23
12	7	15	7	18	7	21	7	34	7	27	7	31
13	7	21	7	24	7	28	7	31	7	35	7	39
14	7	28	7	31	7	35	7	39	7	43	7	47
15	7	34	7	39	7	42	7	46	7	51	7	56
16	7	41	7	45	7	49	7	54	7	59	8	4
17	7	48	7	52	7	57	8	1	8	7	8	13
18	7	55	8	0	8	5	8	10	8	16	8	22
19	8	2	8	7	8	13	8	19	8	25	8	32
20	8	10	8	15	8	21	8	28	8	35	8	42
21	8	18	8	24	8	30	8	37	8	45	8	53
22	8	26	8	32	8	39	8	47	8	55	9	4
23	8	34	8	41	8	49	8	57	9	6	9	16
24	8	43	8	51	8	59	9	8	9	18	9	29

he Sum will be the Length of the Day ; and double the Time of his Riſing, the Sum will be the Length of the Night. But if the Latitude of the Place, and Declination of the Sun, conſiſt of Degrees and Minutes, then a ſmall Allowance muſt be made for the Minutes in both Caſes, which may be done by a Perſon of an ordinary Capacity by a mental Proportion only. Thus, to find the Time of the Sun's Riſing and Setting at

of his viſible half Duration above the Horizon.

The Sun's Declination South.

Degr.	Lat. 55		Lat. 56		Lat. 57		Lat. 58		Lat. 59		Lat. 60	
	h	m	h	m	h	m	h	m	h	m	h	m
0	6	4	6	4	6	4	6	4	6	4	6	4
1	5	58	5	58	5	58	5	58	5	57	5	57
2	5	52	5	52	5	52	5	51	5	51	5	50
3	5	47	5	46	5	45	5	45	5	44	5	43
4	5	41	5	40	5	39	5	38	5	37	5	36
5	5	35	5	34	5	33	5	32	5	31	5	29
6	5	29	5	28	5	27	5	25	5	24	5	22
7	5	23	5	22	5	20	5	19	5	17	5	15
8	5	17	5	16	5	14	5	12	5	10	5	8
9	5	12	5	10	5	8	5	5	5	3	5	2
10	5	5	5	3	5	1	4	59	4	56	4	53
11	4	59	4	57	4	54	4	52	4	49	4	46
12	4	53	4	51	4	48	4	45	4	42	4	38
13	4	47	4	44	4	41	4	38	4	34	4	30
14	4	41	4	37	4	34	4	30	4	27	4	23
15	4	34	4	31	4	27	4	23	4	19	4	14
16	4	27	4	24	4	20	4	15	4	11	4	6
17	4	21	4	17	4	12	4	8	4	3	3	57
18	4	14	4	9	4	5	4	0	3	54	3	48
19	4	7	4	2	3	56	3	51	3	45	3	39
20	3	59	3	54	3	49	3	43	3	36	3	29
21	3	52	3	46	3	40	3	34	3	27	3	19
22	3	44	3	38	3	31	3	24	3	17	3	9
23	3	36	3	29	3	23	3	15	3	6	2	57
24	3	27	3	20	3	13	3	5	2	55	2	45

at Aberdeen in Scotland, on the Longeſt Day; the Latitude of that Place is accounted 57 Degr. 7 Min. North, and the Sun's Declination 23 Deg. 28 Min. likewiſe North. By theſe you will find by the Table, that 5 Min. for the Sun's Declination, and 1 Min. for the Latitude of the Place, are both, to be added to 8 Hours 49 Min. the Time belonging to 57 Degr. of Latitude and 23 Degr. of North Declination, and the Sum will be 8 Hours 55 Min. the Time of his apparent Setting at Aberdeen, on the longeſt Day, whoſe Complement to 12 Hours, viz. 3 Hours 5 Min. will be the Time of his Riſing, &c.

A Table of the Sun's Right-Aſcenſion in Time, the greateſt

Degr.	♈			♉			♊			♋			♌			♍		
	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s
0	0	0	0	1	51	37	3	51	15	6	0	0	8	8	45	10	8	23
1	0	3	40	1	55	27	3	55	25	6	4	22	8	12	54	10	12	12
2	0	7	20	1	59	17	3	59	36	6	8	43	8	17	3	10	16	0
3	0	11	0	2	3	8	4	3	48	6	13	5	8	21	11	10	19	48
4	0	14	41	2	6	59	4	8	0	6	17	26	8	25	19	10	23	35
5	0	18	21	2	10	51	4	12	13	6	21	48	8	29	26	10	27	22
6	0	22	2	2	14	44	4	16	26	6	26	9	8	33	31	10	31	8
7	0	25	42	2	18	37	4	20	40	6	30	30	8	37	37	10	34	54
8	0	29	23	2	22	31	4	24	55	6	34	51	8	41	41	10	38	40
9	0	33	4	2	26	25	4	29	10	6	39	11	8	45	45	10	42	25
10	0	36	45	2	30	20	4	33	26	6	43	31	8	49	48	10	46	9
11	0	40	26	2	34	16	4	37	42	6	47	51	8	53	51	10	49	53
12	0	44	8	2	38	13	4	41	59	6	52	11	8	57	52	10	53	37
13	0	47	50	2	42	10	4	46	16	6	56	31	9	1	53	10	57	20
14	0	51	32	2	46	8	4	50	34	7	0	50	9	5	53	11	1	3
15	0	55	14	2	50	7	4	54	52	7	5	8	9	9	53	11	4	46
16	0	58	5	2	54	7	4	59	10	7	9	26	9	13	52	11	8	28
17	1	2	40	2	58	7	5	3	29	7	13	44	9	17	50	11	12	10
18	1	6	23	3	2	8	5	7	49	7	18	1	9	21	47	11	15	52
19	1	10	7	3	6	9	5	12	9	7	22	18	9	25	44	11	19	34
20	1	13	51	3	10	12	5	16	29	7	26	34	9	29	40	11	23	15
21	1	17	35	3	14	15	5	20	49	7	30	50	9	33	35	11	26	56
22	1	21	20	3	18	19	5	25	9	7	35	5	9	37	29	11	30	37
23	1	25	6	3	22	23	5	29	30	7	39	20	9	41	23	11	34	18
24	1	28	52	3	26	20	5	33	51	7	43	34	9	45	16	11	37	58
25	1	32	38	3	30	35	5	38	12	7	47	47	9	49	9	11	41	39
26	1	36	25	3	34	41	5	42	34	7	52	0	9	53	1	11	45	19
27	1	40	12	3	38	49	5	46	55	7	56	12	9	56	52	11	49	0
28	1	44	0	3	42	57	5	51	17	8	0	24	10	0	43	11	52	40
29	1	47	48	3	47	6	5	55	38	8	4	35	10	4	33	11	56	20
30	1	51	37	3	51	15	6	0	0	8	8	45	10	8	23	12	0	0

The time of the ſouthing or meridian tranſits of the fixed ſtars in pa. 46, may be found thus. On the noon of the day, preceding the night in which you want to know the time of the ſouthing of any of thoſe ſtars, find the Sun's place in the Ephemeris, and with it take out of the above table his right aſcenſion in time; this you may do by inſpection to a minute, which will be ſufficient for your preſent purpoſe: Then from the right-aſcenſion of the ſtar in pa. 46, ſubtract the right-aſcenſion of the Sun, the remainder will be the eſtimate time of the ſtar's ſouthing, and will not differ from the true time above 2 or 3 minutes at moſt, which may be near enough for ordinary uſes. But when great exactneſs is required, reduce the Sun's place to this eſtimate time, and with it find in the above table his right aſcenſion to ſeconds, which being ſubtracted from that of the ſtar, the remainder will be the

Sun's Right-Aſcenſion.

Obliquity of the Ecliptic being 23° 28′.

Degr.	♎			♏			♐			♑			♒			♓		
	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s
0	12	0	0	13	51	37	15	51	15	18	0	0	20	8	45	22	8	23
1	12	3	40	13	55	27	15	55	25	18	4	22	20	12	54	22	12	12
2	12	7	20	13	59	17	15	59	36	18	8	43	20	17	3	22	16	0
3	12	11	0	14	3	8	16	3	48	18	13	5	20	21	11	22	19	48
4	12	14	41	14	6	59	16	7	0	18	17	26	20	25	19	22	23	35
5	12	18	21	14	10	51	16	12	13	18	21	48	20	29	26	22	27	22
6	12	22	2	14	14	44	16	16	26	18	26	9	20	33	31	22	31	8
7	12	25	42	14	18	37	16	20	40	18	30	30	20	37	37	22	34	54
8	12	29	23	14	22	31	16	24	55	18	34	51	20	41	41	22	38	40
9	12	33	4	14	26	25	16	29	10	18	39	11	20	45	45	22	42	25
10	12	36	45	14	30	20	16	33	26	18	43	31	20	49	48	22	46	9
11	12	40	26	14	34	16	16	37	42	18	47	51	20	53	51	22	49	53
12	12	44	8	14	38	13	16	41	59	18	52	11	20	57	52	22	53	37
13	12	47	50	14	42	10	16	46	16	18	56	31	21	1	53	22	57	20
14	12	51	32	14	46	8	16	50	34	19	0	50	21	5	53	23	1	3
15	12	55	14	14	50	7	16	54	52	19	5	8	21	9	53	23	4	46
16	12	58	57	14	54	7	16	59	10	19	9	26	21	13	52	23	8	28
17	13	2	40	14	58	7	17	3	29	19	13	44	21	17	50	23	12	10
18	13	6	23	15	2	8	17	7	49	19	18	1	21	21	47	23	15	52
19	13	10	7	15	6	9	17	12	9	19	22	18	21	25	44	23	19	34
20	13	13	51	15	10	12	17	16	29	19	26	34	21	29	40	23	23	15
21	13	17	35	15	14	15	17	20	49	19	30	50	21	33	35	23	26	56
22	13	21	20	15	18	19	17	25	9	19	35	5	21	37	29	23	30	37
23	13	25	6	15	22	23	17	29	30	19	39	20	21	41	23	23	34	18
24	13	28	52	15	26	29	17	33	51	19	43	34	21	45	16	23	37	58
25	13	32	38	15	30	35	17	38	12	19	47	47	21	49	9	23	41	39
26	13	36	25	15	34	41	17	42	34	19	52	0	21	53	1	23	45	19
27	13	40	12	15	38	49	17	46	55	19	56	12	21	56	52	23	49	0
28	13	44	0	15	42	57	17	51	17	20	0	24	22	0	43	23	52	40
29	13	47	48	15	47	6	17	55	38	20	4	35	22	4	33	23	56	20
30	13	51	37	15	51	15	18	0	0	20	8	45	22	8	23	24	0	0

the true time of the ſtar's culminating or ſouthing. And if from the time of the ſtar's ſouthing you ſubtract the ſemidiurnal arc belonging to it, the remainder will be the time of the ſtar's riſing; and being added to it, the ſum will be the time of its ſetting.

Annexed is an Ex. of SIRIUS for Jan. 31, 1794.

☉'s place at noon ♒ 11° 57′	h	m	s
Rt. Aſc. of Sirius - -	6	35	58
☉'s rt. aſc. ſubtract -	20	57	40
*'s eſtimate ſouthing -	9	38	18
☉'s rt. aſc. at that time ſub.	20	59	0
*'s true ſouthing - -	9	36	58
Semid. arc ſub. & add -	4	36	55
*'s riſing aſtern. - -	5	00	03
*'s ſetting - -	14	13	53

A Table of the mean Right-Aſcenſions in time, Semidurnal-Arcs, Declinations, and Magnitudes of 40 remarkable fixed Stars, with their Names, and Bayer's Literal Characters, for January 1, 1790.

Names of the Stars	Ch.	Rt. Aſc.			Declination				Semid. Ar.			Ma
		h	m	s	°	′	″		h	m	s	
Pole ſtar, Alruccabah -	α	0	48	57	88	11	34	n	ſets not			2
Andromeda's girdle, Mirach -	β	0	57	48	34	29	47	n	10	7	32	2
Andromeda's left foot, Almach	γ	1	51	10	41	18	41	n	ſets not			2
Ram's following horn -	α	1	55	18	22	27	43	n	8	9	35	2
Whale's jaw, Menkar -	α	2	51	19	3	15	11	n	6	19	48	2
Meduſa's head, Algol - -	β	2	54	32	40	7	41	n	ſets not			2
Perſeus's right ſide, Algenib	α	3	9	26	49	7	6	n	ſets not			2
Brighteſt of the 7 ſtars -	η	3	35	2	23	26	22	n	8	16	40	3
Bull's ſouth eye, Aldebaran	α	4	23	51	16	4	19	n	7	28	51	1
Auriga's left ſhoulder, Capella	α	5	1	11	45	46	57	n	ſets not			1
Orion's left foot, Rigel -	β	5	4	27	8	27	38	s	5	20	28	1
Bull's north horn - -	β	5	12	57	28	25	12	n	8	57	1	2
Orion's left ſhoulder, Bellatrix	γ	5	13	54	6	8	50	n	6	34	41	2
Orion's girdle - -	ε	5	25	32	1	21	22	s	5	56	42	2
Orion's right ſhoulder, Betelgeuſe	α	5	43	46	7	21	2	n	6	40	58	1
In the great Dog's mouth, Sirius	α	6	35	58	16	25	8	s	4	36	55	1
Head of the 1ſt Twin, Caſtor	α	7	21	11	32	19	57	n	9	38	21	1
In the leſs Dog's thigh, Procyon	α	7	28	21	5	46	33	n	6	32	50	1
Head of the 2d Twin, Pollux	β	7	32	30	28	31	19	n	8	58	13	2
Hydra's heart, Alphard -	α	9	17	15	7	45	30	s	5	24	20	2
Lyon's heart, Regulus -	α	9	57	11	12	58	43	n	7	11	28	1
Great Bear, Lower Pointer	β	10	49	4	57	30	19	n	ſets not			2
Great Bear, Upper Pointer -	α	10	50	39	62	53	25	n	ſets not			2
Lion's tail, Deneb - -	β	11	38	24	15	44	22	n	7	27	18	2
Great Bear, 1ſt in the tail, Aliath	ε	12	45	5	57	7	0	n	ſets not			2
Virgius's ſpike - -	α	13	14	10	10	3	38	s	5	12	20	1
Dragon's tail - -	α	13	58	42	65	20	53	n	ſets not			2
Bootes, Arcturus -	α	14	6	11	20	20	20	n	7	55	26	1
Libra, Southern Scale - -	α	14	39	22	15	9	30	s	4	44	23	2
Libra, Northern Scale - -	β	15	5	47	8	36	4	s	5	19	57	2
Bright ſtar in the North Crown	α	15	25	49	27	25	35	n	8	48	36	2
Scorpion's heart, Antares	α	16	16	35	25	56	54	s	3	34	6	1
Hercules's head, Raſ. Algethi	α	17	5	7	14	38	4	n	7	20	41	2
Head of Serpentarius - -	α	17	25	8	12	43	20	n	7	9	50	2
Dragon's head, Raſtaben -	γ	17	51	51	51	31	28	n	ſets not			2
Bright ſtar in the Harp, Lyra	α	18	29	45	38	35	39	n	ſets not			1
Bright ſtar in the Eagle, Atair	α	19	40	25	8	18	55	n	6	45	57	2
Mouth of ſouth Fiſh, Fomalhaut	α	22	45	53	30	43	12	s	2	52	6	1
Pegaſus's wing, Markab -	α	22	54	15	14	4	11	n	7	17	10	2
Andromeda's head - -	α	23	57	29	27	55	38	n	8	52	19	2

A Table of the Longitudes, Latitudes, and Magnitudes of the moſt remarkable fixed Stars that the Moon can Eclipſe, or make a near Appulſe unto; exactly rectified to the beginning of the year 1790.

Con.	Cha.	Long.			Lat.				Mag.	Con.	Cha.	Long.			Lat.				Mag.
		°	′	″	°	′	″					°	′	″	°	′	″		
♓	δ	♈ 11	13	11	2	9	44	n	4	♎	α	♏ 12	9	29	0	21	48	n	2
	ε	14	36	25	1	5	37	n	4		12	18	4	37	1	49	14	s	3
	ζ	16	56	25	0	13	11	s	4		γ	22	12	9	4	24	41	n	3
♈		♉ 17	54	44	1	48	7	n	4		η	24	26	33	4	2	52	n	4
♉	η	27	3	44	4	1	36	n	3		κ	24	49	47	0	1	1	n	4
	γ	♊ 2	52	0	5	45	30	s	3		θ	26	56	12	3	29	24	n	4
	ι	5	31	37	2	35	37	s	3		λ	27	32	46	0	6	53	n	4
	α	6	51	20	5	29	2	s	1	♏	δ	29	38	28	1	57	17	s	3
	β	19	38	37	5	21	59	n	2		π	♐ 0	0	35	5	26	15	s	3
	ζ	21	51	15	2	13	29	s	3		β	0	15	33	1	2	18	n	2
♊	η	♋ 0	30	37	0	55	4	s	4		ν	1	42	50	1	39	52	n	4
	μ	2	22	2	0	50	34	s	3		σ	4	52	13	4	0	23	s	4
	γ	5	10	20	6	46	12	s	2		α	6	49	58	4	32	17	s	1
	ε	7	0	30	2	2	28	n	3		τ	8	31	42	6	5	21	s	4
	δ	15	35	29	0	12	19	s	3	♐	γ	28	20	3	6	56	48	s	3
	β	20	19	34	6	40	4	n	1		μ	♑ 0	16	58	2	22	24	n	4
♋	γ	♌ 4	36	51	3	10	22	n	4			3	23	31	2	5	31	s	4
	δ	5	47	9	0	4	13	n	4		φ	7	14	48	3	55	22	s	3
♌	ξ	18	43	23	3	1	57	s	4		σ	9	27	17	3	24	55	s	3
	ο	21	19	38	3	46	1	s	4		τ	11	54	32	5	2	33	s	3
	η	24	58	23	4	51	9	n	4		ο	12	3	36	0	53	36	n	3
	α	26	54	49	0	27	27	n	1		π	13	19	21	1	28	7	n	4
	ρ	♍ 3	27	25	0	8	29	n	4	♑	β	♒ 1	6	55	4	36	46	n	3
	τ	18	34	47	0	31	21	s	4		ε	17	16	0	4	57	31	s	4
	υ	22	6	32	3	2	51	s	4		γ	18	50	53	2	32	6	s	4
♍	β	24	10	47	0	41	36	n	3		δ	20	36	5	2	33	40	s	3
	ο	♎ 0	26	10	5	4	42	n	3	♒	ι	25	47	17	2	3	47	s	4
	η	1	54	16	1	22	24	n	3		θ	♓ 0	19	42	2	43	22	n	4
	γ	7	14	41	2	48	57	n	3		λ	8	38	43	0	22	57	s	4
	α	20	54	50	2	2	11	s	1		φ	14	12	39	1	2	8	s	4

This table ſhewing the mean longitudes of 60 ſtars to the beginning of the year 1790, their mean longitudes for any other time may be found if 50⅓ ſeconds be added for each ſucceeding, and ſubtracted for each preceding year, and proportionably for a part of a year. Thus, to find the longitude of the firſt ſtar ♓ δ, or δ piſcium, for Feb. 15, 1792, or 2 years and one eighth after the tabular time; here 2⅛ times 50⅓ ſec. make 1′ 47″, which being added to the tabular longitude, gives ♈ 11° 14′ 58″ for the longitude required at the given time.——The latitudes vary not.

The Latitudes and Longitudes of Ninety Places.

	Lat.		Long.			Lat.		Long.	
	°	′	°	′		°	′	°	′
Alexandria, Egypt	31	11 n	30	17 e	Iſpahan	32	25 n	52	55 e
Amſterdam, Hol.	52	23 n	4	52 e	Land's end	50	6 n	5	50 w
Archangel, Ruſ.	64	34 n	38	30 e	Leghorn	43	33 n	10	25 e
Athens	37	40 n	23	52 e	Leoſtoff	52	38 n	1	54 e
Babelmandel	12	50 n	43	50 e	Leverpool	53	22 n	3	10 w
Batavia	6	12 s	106	45 e	Lima	12	1 s	76	50 w
Bengal	22	0 n	92	45 e	Liſbon	38	42 n	9	4 w
Berlin	52	33 n	13	26 e	Lizard	49	57 n	5	21 w
Bombay Iſle	19	42 n	73	3 e	London	51	31 n	0	0
Boſton, Amer.	42	25 n	70	37 w	Madras	13	8 n	80	7 e
Breſlau	51	3 n	17	13 e	Madrid	40	25 n	3	45 w
Breſt	48	23 n	4	30 w	Manila	14	30 n	120	25 e
Briſtol	51	28 n	2	30 w	Marſeilles	43	18 n	5	21 e
Buenos Ayres	34	35 s	58	0 w	Mexico	19	54 n	100	5 w
Cadiz	36	31 n	6	7 w	Miſſiſſipi, mouth	29	0 n	89	17 w
Calais	50	58 n	1	51 e	Moſcow	55	25 n	37	51 e
Cairo, Egypt	30	2 n	31	26 e	Naples	40	51 n	14	19 e
Cambridge	52	13 n	0	4 e	Newcaſtle	55	0 n	1	18 w
Canaria Iſlands	28	1 n	15	0 w	Oporto	40	53 n	8	35 w
Canton	23	8 n	113	2 e	Orkney I. north end	59	24 n	3	23 w
Cape of Goodhope	34	29 s	18	23 e	Oxford	51	45 n	1	16 w
Cape Horn	55	59 s	67	26 w	Paris	48	50 n	2	25 e
Carthegena	10	27 n	75	26 w	Pekin	39	55 n	116	22 e
Charles Town Am.	33	22 n	79	50 w	Peterſburg	59	56 n	30	19 e
Conſtantinople	41	0 n	28	53 e	Philadelphia	39	57 n	75	18 w
Copenhagen	55	41 n	12	50 e	Plymouth	50	24 n	4	15 w
Corinth	37	30 n	23	0 e	Port Mahon	39	51 n	3	53 e
Corke	51	54 n	8	30 w	Port Royal, Jam.	17	40 n	76	37 w
Dantzic	54	22 n	18	36 e	Portſmouth	50	48 n	1	1 w
Dover	51	7 n	1	19 e	Prague	50	5 n	14	15 e
Dublin	53	20 n	6	55 w	Quebec	46	55 n	71	12 w
Edinburgh	55	58 n	3	1 w	Rome	41	54 n	12	32 e
Ferro, Iſle	27	48 n	18	6 w	Scilly Iſles	50	0 n	6	45 w
Finiſterre, Cape	42	57 n	0	36 w	Smyrna	38	28 n	27	25 e
Genoa	44	25 n	8	41 e	Stockholm	59	22 n	18	12 e
Gibraltar	36	5 n	4	46 w	Syracuſe	37	4 n	15	20 e
Glaſgow	55	52 n	4	5 w	Tangier	35	55 n	5	45 w
Goa	15	31 n	73	50 e	Teneriff	28	16 n	16	32 w
Gottingen	51	32 n	9	58 e	Tunis	36	47 n	10	16 e
Greenwich	51	29 n	0	5 e	Turin	45	5 n	7	45 e
Hacluit's Head.	79	55 n	12	0 e	Venice	45	27 n	12	24 e
Halifax, America	44	46 n	63	20 w	Verd, Cape	14	47 n	17	28 w
Havanna	23	12 n	81	11 w	Vienna	48	11 n	16	28 e
Helena, I. St.	15	55 s	5	49 w	Upſal	59	52 n	17	43 e
Jeruſalem	31	50 n	25	25 e	Uraniberg	55	54 n	12	52 e

BRITISH MUSEUM

FINIS.

e
w
e
e
w
w
w
w

e
w
e
e
w
w
e
e
w
w
w
w
e
e
e
w
w
e
w
w
e
w
e
w
e
e
e
w
w
e
e
e
w
e
e
e